

AUDUBON'S

ANIMALS (Page 308)

# Audubon



# magazine

SEPT. - OCT. 1951

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Photo by Roger Tory Peterson

**WAYNE SHORT**—who has observed birdlife in every state of the Union and most of the provinces of Canada. Formerly radio news commentator for the St. Louis Post-Dispatch, now Executive Assistant, National Audubon Society, in charge of Audubon Screen Tours and Audubon Art Tours.

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# Audubon magazine

Volume 53 Number 5

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Fifty-second year of continuous publication.*

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*Don't miss!*

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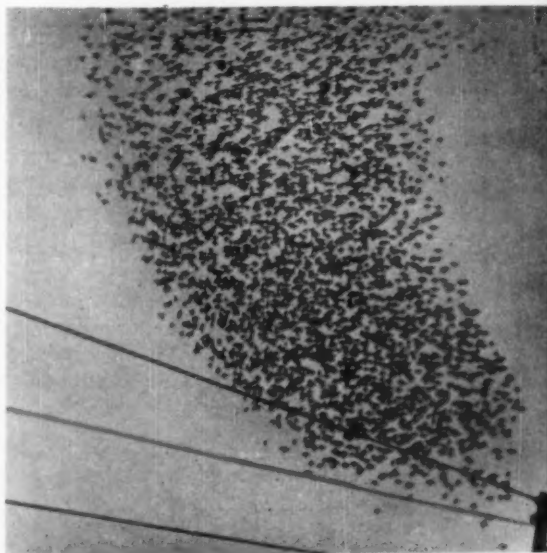
## Letters

### Spectacular Starling Flight

On September 24, 1950, my son and I witnessed a starling roosting flight which might be of interest to readers of *Audubon Magazine*.

While driving along Route 7 in Connecticut, we saw a large flock of starlings circling over the open fields bordering the northeast edge of the Danbury Fair grounds. This was at 5:10 p.m. E.S.T. We parked on the side road northeast of the fair grounds and for the next 15 minutes witnessed the most spectacular flight of birds I have ever seen.

Because of the rapidly changing pattern of the flock, we were unable to make anything approximating an accurate count, but it is safe to say it numbered many thousands of birds. The large flock was continually added to by small



flocks coming in, and the wings of the birds caused a roaring sound when they passed low over our heads. The gyrations of the flock and its rapidly changing shape was a thrilling sight. Whenever the flock was split going around large elms, the clashing of wings when the flock rejoined could be heard some distance away.

*Continued on Page 339*

AUDUBON MAGAZINE

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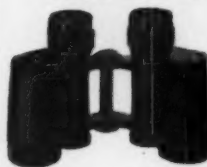
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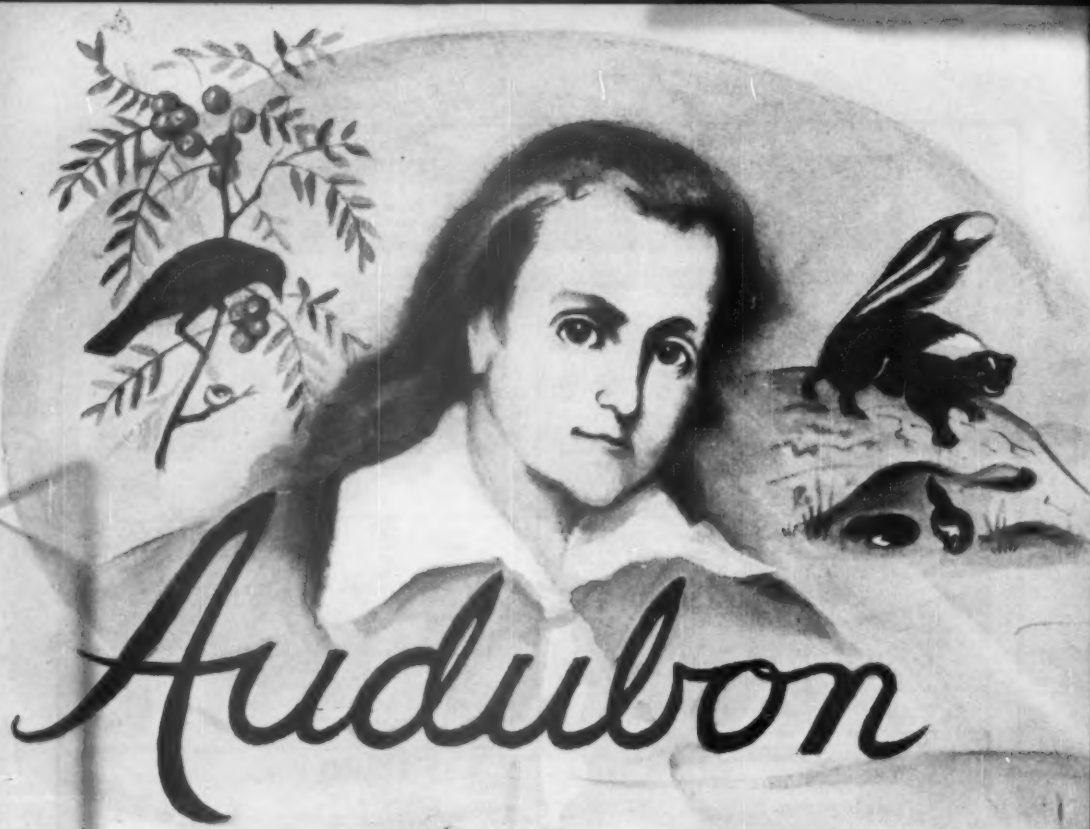
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## PAINTER OF A VISION

By Alan Devoe

THE other morning I had been working away for some hours at my desk, performing I forget what exhausting and unimportant chore of the sort with which we all let ourselves get besotted, when I happened to look out the window and see—framed like a picture in one pane of the glass—a tiny earth-vignette. It wasn't anything especially unusual. What the window-pane framed was simply a small section of the trunk of a big fallen elm that's been quietly decaying in the woods beside my dooryard for many years. With time, and the working of the subtle beauty of decay, this tree trunk has become

tinged with moss-greens and earth-browns, as the wood has slowly fulfilled its destiny of returning to the soil and has become itself a nourishment for new vegetations to succeed it.

On the little section of old tree trunk framed in the window-pane there was sitting, when I looked, a wild animal. Not, to be sure, a very large or spectacular wild animal, but still a wild animal. A white-footed mouse. The mouse was sitting perkily on its haunches, peering around the great green garden of the woods, and betimes grooming its spruce little whiskers.

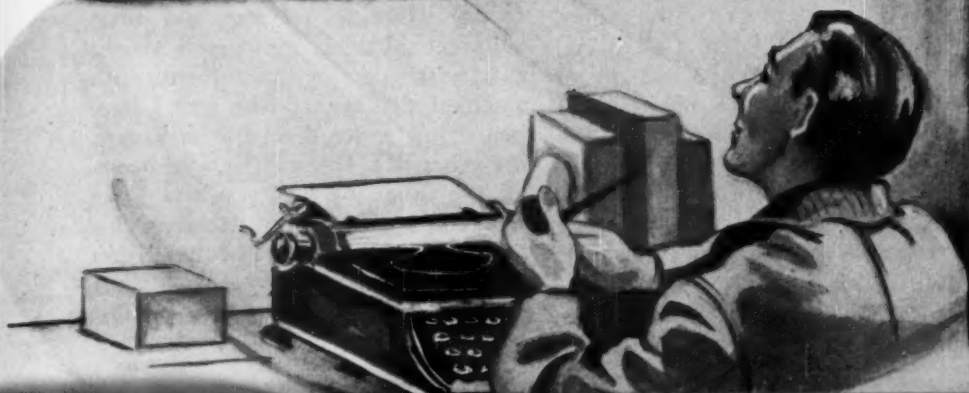
That's all. The scene was nothing but that. But somehow, isolated and framed as it was by the window-frame,

and catching my eye in a moment when I was peculiarly receptive, this tiny nature-picture struck me with a piercing poignancy and started a tumult of feeling which couldn't readily be put into words. Here, for one second, was concentrated and focused the whole wonder and excitement of the aboriginal creation. Here was the fantastic fact of aliveness, vegetable aliveness, animal aliveness, the quivering and incalculable marvel to strike home to a man with the staggering force of a blow. Here, in small terms and humble, was the beauty of being; and here was crowded a vivid throng of suggestions . . . the suggestion of

*Drawing by Sally Tate*

nature's slow rhythms of decay and succession, the suggestion of all these rhythms forming a serene melody of repose-in-progress, the suggestion of a kind of profound wilderness-peace encompassing and resolving all small, hot frets. Here, for one instant—(alas, it is very seldom for longer)—was a man, who happened to be I, looking at his native world and responding to it in such a burst of awareness and appreciation as ought, of course, to be our way of experiencing the life-adventure every day.

It wasn't much of a scene I saw. Nor was my adventure in heightened awareness any adventure of a kind peculiar to me. We all have these instants. We all have these sudden, flooding realizations. We hear the au-





turn geese go honking overhead, or we catch a sudden scent of a cattail marsh in spring, or we see the slanting sunlight of a golden summer afternoon lying warmly across the pasture where the phoebes are calling . . . and all of a sudden, for a few seconds that may shake us to our depths, we see truly and know truly and take hold of an ancient unspeakable understanding. We become, in an instant's vision, old uncorrupted Adam, in the morning of the world.

It is a universal vision. It hits truck drivers and presidents of banks. It sets Chinese poets to writing verse about the Tao, and classical dreamers to dreaming of Pan and Arcady, and Christian thinkers to brooding upon the garden-freshness of Eden and the bitter tragedies of self-will that exile us. No two of us human beings, though we are created equal, are created quite alike. Some of us may have the gift and disposition for music, some for dancing, some for scribbling, some for the kind of executiveness that arranges and directs things and some for the practical doing of them with our hands. We're no two of us alike; we come into being each individually; and it's good that we stay each true to himself, and respectful of the different self of his fellow, for fulfillments come differently and each of us is equipped to explore particularly one dimension of the endless whole of Truth. But under all this diversity there is a unity among us, and it is the unity of a common vision. Call it Adam and Eden. Call it Arcady and Pan. Call it the treasure of childhood. Call it the kingdom of heaven. It is all the same dream, the same longing, the same ideal and vision. It's the vision of the fresh unspoiled wilderness-wonder of the world, and of our fresh unspoiled self

responding to it in love and creaturely felicity.

That banker over there, talking into his three telephones . . . 'way down deep inside that fellow there is a child-simple dream. It hits him every now and then; and in the instant of his vision he would trade all the bank notes in the world for just walking in boy-fresh simplicity in a green woods and hearing a veery sing. What else in the world (so he knows in that instant) is so precious as primal wonder and love, and what gilt-edged security so cherishable as the cheerful fecklessness of self-forgetting? That publisher over there, charting the sales-graph of his best seller . . . he'd trade it all in, when the vision's upon him, for just being able to see trees as green as once he saw them, and smell rain-wet fields as once he smelled them, and be again the entranced child in this Garden that once upon a time we all were, in innocence and trust.

Down South, there's a grand old phrase for these magical instants when the universal vision suddenly blazes in upon a man. They say that he's "got a glory."

It was the distinction of John James Audubon that he had a glory; and that he was able—as you and I and the world-wearied rest of us can't often do—to keep his glory nearly continuous. He looked at the creation with an Adamitic freshness, in an untiring renewal of wonder and response. He saw old logs and little white-footed mice, in a steady vision, as lit with splendor and immense with a sensed significance, the way I happened just to see them for an instant the other day. He saw the wild geese, all the time, the way you and I see them only occasionally. He lived his lifetime in the vividness of that vision

that comes to our banker friend only at rare intervals, when the three telephones stop ringing for a while. John James Audubon had a glory. It was his further matchless gift that he was able to put it down in paint.

I am no biographer. I don't even remember Audubon's birth-date except for a few minutes just after I've looked it up, and the details of his life are hazy to me. Nor am I an art-critic. I can make no intelligent comment, art-wise, on what Audubon did with pigments and perspectives. In this centenary year of Audubon's death, I must leave such matters to the critics and biographers competent to talk about them. But I can claim a certain competence to speak of this one particular aspect of Audubon, the vision that was in him, simply by virtue of the fact of being human. Audubon's vision was also yours and also mine. In rare moments of heightened sensitivity and spontaneous insight, I have walked those glory-lit woods of his, and so have you. Rarely, by grand good luck, I have seen kinglets on a flowering spray, and for a second been as wise as when I was seven years old; and the same rare vision has been vouchsafed to you. Audubon *lived* that exalted insight. And he put it in paint.

As I work at my desk, I look up at an enormous picture: Audubon's "Black Vulture."<sup>\*</sup> It is something much more than just a picture. In the sweep of the dark birds' wings, in the serene interior rhythms of the scene, in the typical Audubon-way in which the scene's background winds and drifts away, away, away along a river to infinity . . . in all this there is something vastly more than a "bird-picture" or a "natural history plate."

<sup>\*</sup> Plate No. 106 of "The Birds of America" by John James Audubon.

This is not just a depiction. This is a vision. This is the vision of nature's wholeness, of the flowing ever-continuum of being, of the splendor that lies upon all earth-things when our eye is the eye it ought to be, and the peace that is at the heart of nature when our own heart is the heart it ought to be. There have been some times of hard-going in my life, as in yours, as in everybody's. In those times I have looked long hours at that painting of John James Audubon's; and I owe to it such restorations as constitute a never-payable debt.

It is the same with Audubon's "Crow" on my west wall, and his "Baltimore Orioles" on my south one, and the "Mephitis Americana"\* that hangs on the east. I have lived almost all my adult life with Audubon prints around me; and what they have done to keep me sane and steady—to make more possible those precious times when a man may "get a glory"—would be beyond calculating. The vision of the fresh wilderness is precious to us all. No man more than Audubon can help to keep us remembering it. The primal freshness of our response to nature—the lovely self-forgetting that comes to us in going entranced about this Garden of the creation in the mood that Schweitzer calls reverence for life—this is something inestimably precious. No man more than Audubon reminds us of it when we would forget.

"Where there is no vision," it is written, "the people perish." They do indeed. You do and I do and all of us. To Audubon, steadfast in his vision, prodigious in his painting of it, we owe the honor due not merely a painter but a prophet.

<sup>\*</sup> Plate XLII, Skunk, Vol. I, "The Quadrupeds of North America," by John James Audubon and the Reverend John Bachman, New York, 1849.

# Persecution

## Alaskan Bounties Have Slaughtered 114,000 Eagles; Will Congress Act?

By Irston R. Barnes\*

THE bald eagle, since our nation's beginnings, has been the symbol of our aspirations, of greatness promised, of greatness fulfilled. It was a fitting emblem of a vast and bounteous land, of majestic mountains, limitless horizons, plains and encircling oceans.

Our living symbol of America should have been honored and protected, yet the eagle has been hunted and persecuted, so that few adults and fewer children have thrilled to its soaring flight. In Alaska it has been subjected to the final indignity of being stigmatized an outlaw, with a bounty on its claws. If it disappears as a living species, the bald eagle will become for all times a symbol of our incapacity to safeguard our resources, of the failure of twentieth century America to preserve for succeeding generations the good earth and its creatures.

When our country was first settled, the bald eagle lived in virtually every state. Today a few scattered popula-

tions survive. In the States, the eagle is now represented by significant populations only in Florida and in the Chesapeake Bay region. In Florida the bird has been protected and encouraged, but its population is still shrinking as encroaching community growth eliminates nesting sites. It has been estimated recently that there are 350 pairs nesting in Florida, perhaps 150 pairs in Virginia, Maryland and Delaware. Scattered pairs are known in other states: probably not more than 8 or 10 in Georgia and the Carolinas, eight in New Jersey, a few in the Lake states, three in Pennsylvania, perhaps 20 pairs in Maine, and a small group nests on the Santa Barbara Islands off the coast of California. Over much of its former range the eagle has been extirpated.

The northern race of the bald eagle, slightly larger than the members of the southern race with which we are familiar, has two population centers—one in the maritime provinces of Canada, the other in Alaska and British Columbia. Only in Alaska has the eagle survived in significantly large numbers.

\* Dr. Barnes is President of the Audubon Society of the District of Columbia. This article is also being printed in the *Atlantic Naturalist*, the journal of that Society.

# o r F r e e d o m ?

## **Why eagles are decreasing.**

THE disappearance of the eagle over much of its former range emphasizes the fact that there are danger points beyond which a population may not be reduced if the species is to survive. Many factors combined to reduce the eagle population in the United States. Some of these are as follows: (1) the spread of urban populations with consequent destruction of nesting sites (2) industrialization and pollution of rivers (3) lumbering which has both destroyed nest sites and altered the flow of rivers, and, of course, (4) the stupid persecution which the ignorant have directed against all birds and four-footed animals that prey upon others.

The precarious position of the bald eagle was recognized by Congress in

1940 when federal protection was extended to it. To avoid delay in the enactment of that statute, arising from protests coming from Alaska, and without any finding that the protection of the eagle in Alaska was not necessary and appropriate, the 1940 bill was amended to exempt Alaska. The introduction in the Eighty-first Congress of bills to amend the 1940 act extending protection to the eagle in Alaska was thus a matter of unfinished business.

The original exemption seemed to carry no serious threat to the eagle in Alaska, but the reenactment of a bounty law in 1949 added an economic motive to the predatory propensities of those who shoot the bird and made federal protection essential.

## **Bounties stimulate eagle destruction.**

THE history of the bounty in Alaska is significant, both in illustrating the unsound economics of bounties and in documenting the record of the destruction of the eagle in Alaska. From 1917 to 1940, Alaska offered a bounty on eagles—at 50 cents a bird from 1917 to 1923 and at one dollar after 1923. In 1941 the appropriation for the bounty was eliminated; none was pro-

vided in 1943; and in 1945 the law providing for a bounty on the eagle was rescinded. In 1949 the Alaska Legislature reenacted the bounty (the vote being 23 to 1 in the Alaska House and 12 to 3 in the Senate); Governor Gruening, although opposing the bounty, allowed the measure to become law without his signature. The bounty was fixed at \$2.

The slaughter of the eagles under the stimulus of the bounty has been appalling. Ralph H. Imler's unpublished report to the Fish and Wildlife Service, "*Alaska Bald Eagle Studies, 1941*," placed the destruction at 103,459 eagles from 1917 to 1940.

"The Territory of Alaska first paid bounty on bald eagles in 1917. During the five years, 1917-21, 12,368 pairs of feet were presented for the 50 cent fee. In 1923 the bounty was raised to one dollar and more hunters became interested in killing eagles. During the 18 years from 1923 to 1940 bounties were paid on 91,091 birds. Thus the Territory has paid a total of nearly a

hundred thousand dollars for the destruction of 103,459 eagles." Statistics obtained on an annual basis from the Territorial Treasurer's office are not wholly comparable, showing higher totals for the earlier years and having no figures for two years, 1933 and 1935. On the basis of the combined figures, the total kill appears to have been 114,291 eagles.

The eagle population cannot long survive such intensive persecution. The 50 cent bounty produced an average slaughter of 2,624 birds a year.

A year (1949 to Feb. 16, 1950) of the \$2 bounty pushed the slaughter to 7,455.

### **A striking picture, an easy target.**

EAGLES are especially vulnerable to destruction. Mr. Imler's reports of concentrations in 1941—12 in 180 yards on Admiralty Island, 32 in Keku Strait, 30 plus at Anan Creek on July 11 (with a report of 100 seen the week before), 45 at Rodman Bay and Creek, Baranof Island—are indexes of vulnerability, not of abundance. Such concentrations of birds normally dispersed over wide areas along shores accessible to gunners expose the eagle to devastating slaughter. Moreover, the eagle is a large bird; perching conspicuously on the tops of the Sitka spruces and other tall trees on the coast, it makes a striking picture and an easy target. The large nests are easily sighted and birds on or near the nest are victims.

No conclusions as to the total Alaskan eagle population can be drawn from the available figures, but there seems to be little doubt that the bounty can lead to the virtual extermina-

tion of the eagle along the Alaskan coast.

How can the Territory of Alaska justify itself not only in opposing protection for the eagle but in branding it an outlaw with a bounty for its destruction? It is said that the eagle is "a menace to the game and fish of Alaska" which if not kept in check will seriously deplete the wildlife resources of the Territory. More specifically, it is asserted that as a predator "the eagle lives on grouse, salmon, ptarmigan, rabbits, house cats and fawns."

As a general answer, it should be understood that all studies of predation have established that under normal conditions no predator destroys, or even seriously depletes, the prey population on which it lives. The predator lives on whatever prey is most abundant and most easily captured; it harvests the surplus population.



## **Eagles eat dead salmon.**

A GENERAL answer is not enough in the case of the bald eagle. An examination of the specific counts in the indictment against the eagle is possible. In 1942, the Fish and Wildlife Service made a study of the economic relations of the bald eagle in Alaska, analyzing the stomachs of 304 birds. This is the only study on the basis of which the eagle's diet may be judged.

The eagle feeds largely on fish; 79 per cent of its food was fish. Salmon constituted 23.8 per cent, herring 3.5 per cent, and 51.7 per cent was fish of no economic significance. Unlike the osprey, which it enjoys hijacking, the eagle is more of a scavenger than a predator, and this is particularly true of its consumption of fish. Dr. Clarence Cottam, assistant director of the Fish and Wildlife Service, has stated that the great preponderance of salmon taken is carrion, for after spawning the adult salmon die and are cast up on the stream banks. In his considered opinion, only occasionally is a live salmon taken.

Eagles do take some live fish, however; many sculpins, flounders and

gadids are taken alive by Alaskan eagles, but these are not commercially important fish.

The occasional live salmon that the eagle takes cannot possibly affect the salmon fisheries. Studies on the Alaskan rivers have revealed that large spawning runs do not necessarily result in large production of young and large returns several years later; on the contrary, large broods with good survival rates sometimes are produced by relatively small runs. Any actual or supposed reduction of the number of spawners by predation, therefore, has little, if any, effect on the salmon populations, compared with the effect of conditions that determine the survival of eggs and young.

Mr. Imler's studies revealed that waterfowl constituted 15.5 per cent of the food of the 304 eagles, with ducks amounting to 9.3 per cent. The ducks were principally scoters taken along the coast, a duck so little prized by hunters that they are seldom picked up when shot. Ducks are important in the eagle's diet principally in the winter months.

## **Fox farmers' claims discounted.**

MAMMALS were only 2.9 per cent of the food of the eagles analyzed. Deer remains amounted to 1.1 per cent of the stomach contents but this consisted of carrion, not deer killed by the birds. No fox remains were found in the 304 eagle stomachs examined and no first-hand evidence of preying on foxes was encountered. Nevertheless, the fox farmers interviewed were unanimous

in accusing eagles of preying on their stock. A letter to the House subcommittee from I. E. Williams of Juneau supplies one explanation of the allegation of eagle predation on foxes. On the coastal island fox farms, multiplication and crowding lead to the outbreak of disease; the dead foxes scattered about the island attract eagles; each eagle shot by the farmer allows

him to salvage a \$2 bounty for his dead fox. In appraising the testimony of fox farmers against the eagle, it is well to remember that in Florida where the eagle is protected and encouraged there are instances of eagles nesting above chicken yards with no records of their taking the chickens under their nests.

Exaggerated notions are still current

regarding the size prey that an eagle can take. Tales of eagles carrying off babies are now universally recognized as pure fantasy. Equally fanciful are stories of eagles attacking sizable dogs, sheep, goats and deer. An eagle rarely if ever attacks anything it cannot carry off, and an eagle, weighing only 8 to 14 pounds, cannot lift more than its own weight.

### **Raid on the Territorial Treasury.**

THE economics of the bounty system explains the "special interest" nature of the law. Inasmuch as the eagle is not guilty of the charges against it, the payment of "nearly a hundred thousand dollars for the destruction of 103,459 eagles" is actually a raid on the Territorial Treasury. This point was made by Albert M. Day, Director of the Fish and Wildlife Service, in a telegram quoted by Governor Gruening in a letter of March 21, 1949, to the Speaker of the Alaska House: "Eagles in Alaska feed chiefly on carrion, and predation on game animals and fish limited. Bounty on eagles as provided territorial House bill 77 not justified under present conditions. Such legislation if enacted will result in needless destruction of eagles and wasteful expenditure of territorial

funds. It should not be permitted to pass."

The bounty benefits a special segment of the population: the fox farmers who bait eagles in with disease-killed fox carcasses; the fishermen whose high-powered rifles shoot eagles out of the spruces around their anchorages; the trappers who throw out skinned carcasses of trapped animals to lure the eagles down; the bounty hunters who find easy pickings among the eagles that crowd in to feed on the salmon that die after spawning.

The bounty is paid by the taxpayers who contribute to Alaskan revenues, and indirectly and more largely by all those who might have benefited commercially if more Alaskan wildlife survived to attract more tourist interest.

### **Conservation groups favor protection.**

AN analysis of why the legislation to protect the eagle in Alaska failed is revealing. The Grant-Angell bills (H.R. 5507 and H.R. 5629, 81st Congress) were strongly endorsed by spokesmen for the leading wildlife and conservation organizations: American Museum of Natural History, American Nature Association, Emergency

Conservation Committee, National Audubon Society, National Parks Association, National Wildlife Federation, Wilderness Society, Wildlife Management Institute. Some 30 letters supporting the legislation were received by the subcommittee from individuals and organizations, including the Izaak Walton League of Amer-

ica and various state and local Audubon societies.

Delegate Bartlett of Alaska appeared at the public hearing, questioned witnesses, and introduced four letters opposing protection for the eagle. All revealed biological illiteracy and self-interest. For example, Otis H. Speer, who obviously confused the

bald eagle with the golden eagle, asserted in a letter to the Ketchikan Daily News that the bald eagle of Alaska is a "distinctive kind and different breed" from the national emblem. It would be clearly unfair to the majority of Alaskans to judge them in terms of their self-appointed wildlife experts.

## Why has the bill failed?

THE support for the bill marshaled eminent biological and conservation authorities. It was adequately demonstrated that the bald eagle does no damage to salmon or to the fox farming industries, that it is not significant in limiting game populations, that bounties accelerate the destruction of the Alaskan eagles, and that the eagle should be protected both as a symbol of independence and freedom, as a tourist attraction, and as a legitimate part of the Alaskan fauna. How then did the legislation, having been passed in the House of Representatives, fail to be reported out of the Senate Committee on Interstate and Foreign Commerce? The answer seems to lie in the dubious and equivocal position taken officially by the Department of the Interior in a letter of March 29, 1950, by William Warne, Acting Secretary of the Interior. He stated that, while favoring adequate protection for the bald eagle, he did not believe the proposed legislation "is necessary at this time." Mr. Warne added that the Department of the Interior could utilize authority contained in the Alaska Game Law of 1945 to provide protection for the bald eagle in the Territory, if felt such action was necessary.

On June 8, 1951, a subcommittee of the House Committee on Merchant

Marine and Fisheries held hearings in executive session on H.R. 1870, a bill to extend protection to the bald eagle in Alaska. Only two witnesses were present—Dr. Clarence Cottam and Donald J. Chaney of the Fish and Wildlife Service—in addition to Delegate Bartlett. On this occasion the Fish and Wildlife Service took a strong position in opposition to the bounty, but it did not advocate "absolute protection" for the eagle in Alaska, and it neither opposed nor supported the pending bill. The chairman of the subcommittee reported hundreds of letters in support of the legislation and one was read into the record in opposition to it.

At the hearing the subcommittee seemed reluctant to impose protection against the opposition of the people of Alaska, perhaps because the federal Alaska Game Law could be invoked to protect the eagle if the Department of the Interior were convinced that such a step was essential. There seemed a disposition to compromise with nothing more than a warning to the Alaska Legislature that failure to remove the bounty might lead to favorable action on the bill. But as the Alaska Legislature does not meet until 1953, the eagle would be exposed to at least two more years of intense persecution.

## Immediate action is warranted.

EVERYONE interested in the protection of endangered species is concerned to understand the position of the Department of Interior. It is apparently compounded of diverse elements. The bounty is opposed; it is without justification. The eagle is considered to be fairly common in Alaska; it is not in immediate danger of being wiped out. Public opinion in Alaska is reported to be strongly adverse to granting protection to the eagle; enforcement would present serious difficulties for the available staff.

While respecting the good will and competence of the Department and its Fish and Wildlife Service, conservation-minded Audubon members are compelled to question both the facts and the conclusions cited as reasons for not supporting protection for the Alaskan eagle. The considerations in support of protection warrant immediate enactment of a federal protective statute:

1. There is virtually universal agreement that the bounty is unjustified. The Department is "opposed to any bounty law as such." Mr. Day, director of the Fish and Wildlife Service, has stated to Governor Gruening that the bounty would "result in needless destruction of eagles and wasteful expenditure of territorial funds." Dr. Clarence Cottam's testimony on the food habits of the eagle demonstrated that there was no economic basis for the persecution of the eagle. Dr. Ira N. Gabrielson, the respected former director of the Fish and Wildlife Service and president of the Wildlife Management Institute, gave unqualified support to federal legislation protecting the eagle, and cited the bounty—which gives bounty hunters an excuse to be in the field at all times of the

year with a gun, thus increasing the illegal kill of game species and leading to violations of other conservation regulations—as an added reason for mandatory protection. The enactment of the federal law (H.R. 1870) would not effect a repeal of the Alaskan bounty law, but collection of a bounty would be evidence of having killed an eagle. A few convictions with \$500 fines would soon make the \$2 bounty seem poor business.

2. There was no competent evidence presented at the hearings that the eagle could survive in the coastal area under the accelerated bounty slaughter of recent years. No comparative studies have been presented to justify the statement by Mr. Warne, Acting Secretary of the Interior, that "the effect . . . on the population of the bird appears to have been largely negligible." A contrary conclusion finds more support.

3. Alaskan opposition to protection for the eagle has been exaggerated and accorded far too much weight. At the time of the June 8 hearing, only one Alaskan had written in opposition to the present bill; only four wrote in opposition to the earlier bill. Surely there is no justification for shaping public policy to the selfish interests of those who sell guns and ammunition or of the bounty hunters. Equally there is no warrant for deferring to those who erroneously think that the eagle is a menace to fox farming, salmon fisheries, and wildlife generally; deference to their mistaken beliefs only confirms them in their errors. Indeed, enactment of the bill could be the beginning of a more adequate public understanding of the rightful place of the eagle among Alaskan wildlife.

4. The "state's rights" argument

against the protection of wildlife is out of step with the times, as well as being misplaced in its application to a Territory operating under a federally enacted game law. The Migratory Bird Treaties have aligned sovereign nations in conventions to protect migrating birds. The Migratory Bird Treaty Act extends federal protection in this country regardless of what action the states may take. Similarly, there was no question of separate state's rights when the 1940 Bald Eagle Act was passed. It was difficult to understand the logic of the Alaskan exemption in 1940; it is more difficult to understand it since the restoration of the bounty on eagles in 1949.

Charles L. Broley, who is as intimately acquainted with bald eagles as anyone who has studied them, has suggested that the eagle should be brought under the protection of the Migratory Bird Treaty Act. As a retired Canadian banker wintering in Florida, he has during the past 12 years banded some 1,200 birds. Recoveries of his banded birds have shown

that Florida eagles, after nesting early, disperse to the north during the summer, even reaching into Canada. He is convinced that the eagles along the Alaskan coast move south along the British Columbia coast during the winter and he asserts that Canada has a legitimate interest in the eagles being shot in Alaska.

To stop the eagle slaughter in Alaska now, the present Congress should enact H.R. 1870, which would amend the Act for the Protection of the Bald Eagle of June 8, 1940, extending mandatory protection to Alaska. The measure should not be tabled with a warning to the Alaska Legislature that the bounty should be repealed. The act should be passed even if the bounty law is rescinded. Public hearings on the measure should be held. All conservation and wildlife organizations should assume responsibility for securing a full record with a proper interpretation and evaluation of the technical evidence. The protection of the bald eagle in Alaska is long overdue.

### EAGLE'S NEST SAVED

When the logging crews of Naval Amphibious Construction Battalion Two, Little Creek, Va., began clearing a 27-acre tract of land of

all its timber they were confronted with two screaming bald eagles that resented this intrusion and possible destruction of their treetop home. The area being cleared is to act as a dumping ground for the waste residue resulting from dredging operations around the base's sea channel.


On orders from Commander Raymond Haworth, USN, the battalion's officer-in-charge, the eagle's nest was to remain intact as a sanctuary for the bird that is the symbol of American freedom.

But when the first bulldozer lumbered into the area and began dragging out the fallen trees, the eagles swooped down at the machine in dives reminiscent of the Navy's dive bombers. At first the drivers were a little scared, but it soon became evident that the big birds were just out to protect the family domicile and really were afraid of man and his machines.

With the tree-cutting now completed, and the dredge waste about to spill into the deforested area, the remaining 80-foot pines have taken on the aspect of a new greatness—one of freedom—for the eagles that soar overhead.







"The calls of birds, flying south, came to me from overhead, again and again."

# Flight

By Louise de Kiriline

I GOT up and went out early. It was dark, no moon, not even the faintest line of light at the horizon. Only a few stars shimmered through wisps of mist, paling, announcing the break of a Canadian dawn.

All was still. The pines stood tall and silent around me, magnificently outlined against the sky, like dark, benevolent sentinels on guard over my small house. I heard the muffled beats

of my own heart. In the intense stillness I felt the pulse of that which is immortal.

Then came the sound. With my face turned skyward I stood waiting. I heard it again. It was the faint call of a bird overhead in the dark, flying south. Again and again it came, from near, from afar, moving from distance to distance up there in the unseen—bird calling to bird.

I tried to recognize the calls. But

**Whatever may be the mainspring  
that starts bird migration,  
a bird's voice is a pilot  
for itself and its fellows**

*Photographs, unless otherwise indicated, by Allan D. Cruickshank.*

tailed red-breasted nuthatch. Then, unmistakably, a white-throated sparrow sought an answer to its long-drawn, sibilant "tseet."

Light began to show at the horizon and seeped in among the trees as sea-water creeps in among the dunes at floodtime. This was the signal for the birds to come down. They circled, searched for safe landfalls somewhere in the tapering silhouettes of the treetops. Seconds later I knew they had made it and that they now sat in safety with their feet curled tight around a twig. I knew because their calls no longer moved from place to

**"The whistle of an olive-backed thrush seemed shorter and softer, as if it expected the answer that soon came from another, and yet another."**

## South

the voices of migrating birds in the air sound strangely unfamiliar. Perhaps the distance and the night distort them, or perhaps the birds' migratory calls are special and different. The whistle of a thrush came to me, shorter, softer, it seemed, than their notes on the ground, and poised, as if expecting an answer that soon came from another and yet another thrush. Then a brief utterance with a nasal twang interrupted the thrushes' conversations. Scarcely could this have come from any other than a tiny short-



place but became stationary and louder.

Though I could not see them yet, I fancied that the birds were preening themselves during their short rest before the light became strong enough for them to begin feeding. What more natural act for a bird just alighting from a night-long flight! How comforting to ruffle the plumage with a vigorous shrug and then to smooth each feather back into place! From their dawn perches, the birds called and called across the twilight woods.

As I stood listening to them, of a sudden the meaning and importance of the voice to the migrating bird struck me as never before.

Whatever may be the mainspring that starts and maintains the impulsion of avian migration, once on the wing there can be little doubt but that the bird possesses in its voice a pilot for itself and its fellows as accurate and reliable as a radio beam. On their nocturnal flights, small woodland birds seldom, if ever, fly in tight flocks or formations and they have no slipstream from the bird next ahead to follow. Nor is sight one of their chief guides in the dark. Instead, flying in loose gatherings, one by one, tiny specks between earth and cloud, these birds seek contact with each other, feel for guidance from their lone and lofty positions, with their faint but penetrating voices. It may be supposed that the bird whirled off the beaten track, inland or out to sea, is lost chiefly because it has lost ear-shot contact with its fellows. Aimlessly it flies off the beam, until once more it hears the voices of other birds and joins them to save its life. Or else, in the end, it drops earthwards, exhausted, in utter loneliness.

The sun arose upon a forest flecked with gold. The leaves were turning

and their brilliant colors brightened the spaces between the evergreens with an unbelievably lucent effect. A puff of the morning breeze dropped showers of dead needles from the branches of the pines and they accumulated on the ground into a springy light-brown carpet.

The birds that came down at dawn moved on. Soon they were followed by wave after wave of migrating warblers and other woodland species, which for brief moments took possession of a piece of the forest. On northern and northwestern slopes they usually came to earth and then flew on over the land, from bush to bush and from tree to tree, along preferred topographical landmarks, streams, lakeshores, ridges or valleys. Unimportant corners of some roadside or forest edge would suddenly seethe with birds, as a larger concentration of them spilled over the margins of habitual trails and spread out in search of food.

Some days when the birds sensed the coming of a cold air mass, they lingered and fed assiduously, needing, above all, to maintain their resistance and strength against whatever hardships might be in store for them. Generally each species kept to the levels at which they were accustomed to forage. Nevertheless, there were endless rivalries over space. In swift zigzag chases or by aerial dueling that took the combatants aloft, bill to bill, and then dropped them apart like two falling leaves, the invisible limits of the feeding areas that surrounded each bird and to which, by natural law, no other was entitled, were often vigorously contested.

At favorable moments in sheltered places and in sunshine, birds sang. Often their songs were off-key, raspy and fragmentary, as if their voices, unused during the post-nuptial moult,

needed a great deal of practicing in order to regain their tone at the revival of song in autumn. Sometimes a thrush, a wren, or a warbler, having once more achieved its full vocal powers, gave a song that seemed sweeter to me than any sung in the spring, because it was not expected, or perhaps, the bird was expressing its sheer joy in being alive.

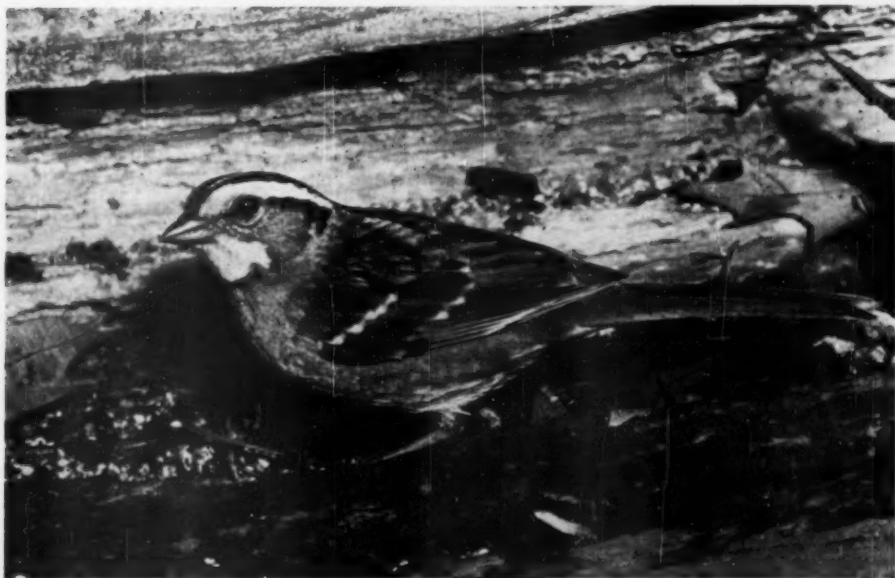
At other times, especially during warm days that might precede the onset of a cold spell, the migrant birds often streamed through the woods, like shooting stars streaking through the skies of an August night. To cover ground seemed to be their main concern. On and on at all costs, no time to stop and feed, no time to linger and play, time only to move, to hasten southwards mile after mile, over roads, along rivers, valleys and ridges.

As I stood watching them in these breathless moments, almost unable to

move from the fascination of the ceaseless movement around me, I often wondered how these small woodland birds could stand the pace set by their own relentless impulse to go south. The next instant, my eyes fastened upon a twig in a sheltered corner. There sat a lone northern yellow-throat perched between two leaves which, exactly like the plumage of the bird itself, shifted from green to a golden bright yellow. The bird was fast asleep, blissfully oblivious of speed, food and nightly travels.

On a mission in which weather, speed and food were the vital factors, sleep was, perhaps, only a secondary matter. A little nap aside that took the bird out of the moving flock for 10 or 15 minutes seemed quite adequate. I watched the yellow-throat stir, awaken wide-eyed, and with a little shrug move on in the wake of the last straggler of its flock.

**"Unmistakably a white-throated sparrow answered with a long-drawn sibilant 'tseet.' Some days, they lingered and fed to maintain their strength for the hardships ahead."**



Resident birds at our Pimisi Bay, Ontario, latitude—blue jays and woodpeckers—took scant notice of the passing migrants, evidently because at this particular time they were themselves in a nomadic mood before they settled down on their winter feeding grounds. But with the black-capped chickadees it was different. Scarcely a gathering of migrating birds moved through the woods without their vanguard of chickadees, which by chatter and song left no one in doubt of their blithe existence.

It was difficult to decide whether the effusive chickadees attracted the migrants, or whether the passing strangers aroused some latent urges in the chickadee heart that lured the two parties together. Either might be true. It was perhaps an alternating affair, governed by circumstances. At any rate, both groups continually announced their conviviality by actions and voice and this penchant for fraternization was indeed a part of each individual's prerequisite for survival. What eventually caused them to part company remained a mystery, and where it happened a flexible point; but my bird bands on the legs of the chickadees proved that they stayed within a certain territory while the migrating birds moved onwards.

The movement of the migrants decreased with the coming of noon and usually became mere trickles or ceased altogether during the afternoon and early evening. This traceless disappearance of large numbers of birds after midday gave me cause for endless speculations. Going out of my territory they must enter another region, just as when leaving a neighboring territory they must come into my region if it were in their path. But the birds disappeared from everywhere. Where

did they go? Where did they hide? Even at the end of the day, when they vanished into thin air, it was certainly never from any point where I might be afforded the thrill of seeing the nightly take-off of a single bird.

Presently, as the rotund face of a harvest or hunter's moon rose from behind the hills and mirrored itself in the surface of the lake, I trained my

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## ★ N A T U R E

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### CONNECTICUT ADOPTS MODEL BIRD LAW

All Hawks and Owls  
Now Protected

Hawks and owls have lots of friends in Connecticut, the National Audubon Society reports. That became apparent in June when Governor John Lodge signed a model bird protection bill that makes it unlawful to shoot any species of hawk or owl in the Nutmeg State.

Approval of this legislation, which had been passed unanimously by both houses of the Connecticut Legislature, places the state among the leaders in bird conservation, according to the National Audubon Society. Formerly, the Society said, Connecticut had one of the weakest laws in the country, protecting only the osprey in the hawk family.

A provision of the new law permits farmers to destroy those individual hawks caught in the act of doing damage to poultry. Pointing out that only occasional hawks develop into poultry stealers, the National Audubon Society said this provision will protect farmers and at the same time prevent misinformed persons from meting out "vigilante justice" to all hawks and owls because of the misdeeds of a few of them.

A public hearing on the new bird protection law, held before the Game and Fish Committees of the Legislature at Hartford, brought out nearly 50 representatives of state conservation organizations who testified to the value of predatory birds. No opposition was presented.

The Westport Audubon Society initiated the



glasses upon that golden disc to see what was going on within its path of illumination. Now and again a bird flitted across my field of vision. In half an hour I counted 26 birds which passed ghost-like across the face of the moon on wings of silver, only a fraction of the numbers in the air that night.

What matchless courage these

winged creatures possess, what firm reliance upon the equity of the Law! For them there is no going back, no hesitation, but up, out, and away.

Leaning against the bulwark of my house, I stood there earthbound with my feet fast to the rock, envying the wild bird its fantastic flight in the night, but above all, the integrity of its impulse.

## I N T H E N E W S ★ ★

drive for the "hawk and owl bill" after a survey had been published in *Audubon Magazine*, revealing that Connecticut lagged far behind most other states in protecting the birds of prey. Other organizations represented at the hearing were: Hartford Bird Study Club, National Audubon Society of Greenwich, and New Canaan Bird Protective Society.

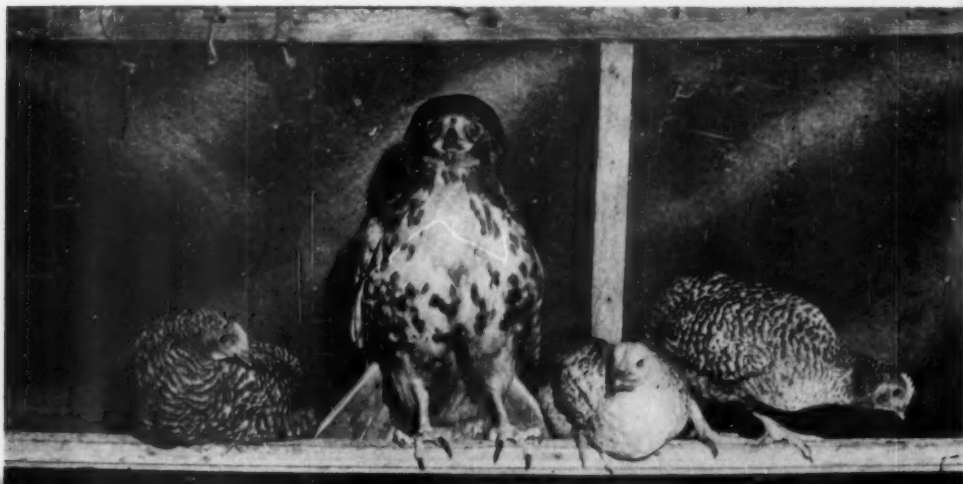
The National Audubon Society believes the new Connecticut law will be regarded as a model "because it recognizes that the average person cannot distinguish among the various hawks and owls, and hence the statute protects them all except that hawks may be taken when in the act of destroying poultry."

A marked change in public attitude towards the birds of prey has been noted by the National Audubon Society since the turn of the century. "Fifty years ago," the Society says, "only five states offered any legal protection to the

eagles, hawks and owls. Extensive studies of the economic relationships of these birds has produced evidence that they are friends of man and play an important role in controlling rodent and insect populations, as well as their general function in the ecological scheme of things. The growing army of hobbyists that observes birds has become increasingly impressed with the grace and skill of the birds of prey and has joined with conservation and farm organizations to support legislation protecting hawks and owls in all but six states."

The National Audubon Society points out that although most migratory birds are protected by federal law, the hawks and owls have never enjoyed such protection and therefore state legislation is required. The Society expresses the hope that states having less comprehensive laws will follow "the progressive lead of Connecticut."

**This friendly relationship between a red-tailed hawk and three chickens was cited at the Connecticut hearing. Photograph by Paul H. Fluck.**





# Wendell

By Edwin Way Teale

WELLS RIVER, Vermont, a 190-year-old village of 600 inhabitants, lies in the valley of the Connecticut River, 60 miles south of the Canadian line. To the west, hills rise steeply, topped by farms with rocky woodlots, ravines bordered by tall white pines, and pastures that look off to a far eastern horizon formed by the peaks of the Presidential Range. On one of these hill-farms, a mile from the village, I found Wendell P. Smith, a man I had long wanted to meet.

For nearly half-a-century, day in and day out, Smith has explored the natural history of a hundred acres. Without leaving his own farm, he has made discoveries of interest to scientists in several fields of research. Because of early illness, he never attended school a day in his life, yet he has been elected to learned societies and has contributed to leading scientific publications. Although he is a self-taught naturalist, he has been for 20 years Assistant State Ornithologist of Vermont. Ten times in succession, he has been elected President of the Vermont Bird Club. His enthusiasm for nature study has continued undiminished, decade after decade, even though he has had to work alone as the only naturalist in his region. Because that region lies near the upper end of the Connecticut River bird flyway, Smith's records

Wendell Smith, Vermont naturalist, watching birds from the woodpile in his farmyard.

# P. Smith

## —GREEN MOUNTAIN NATURALIST

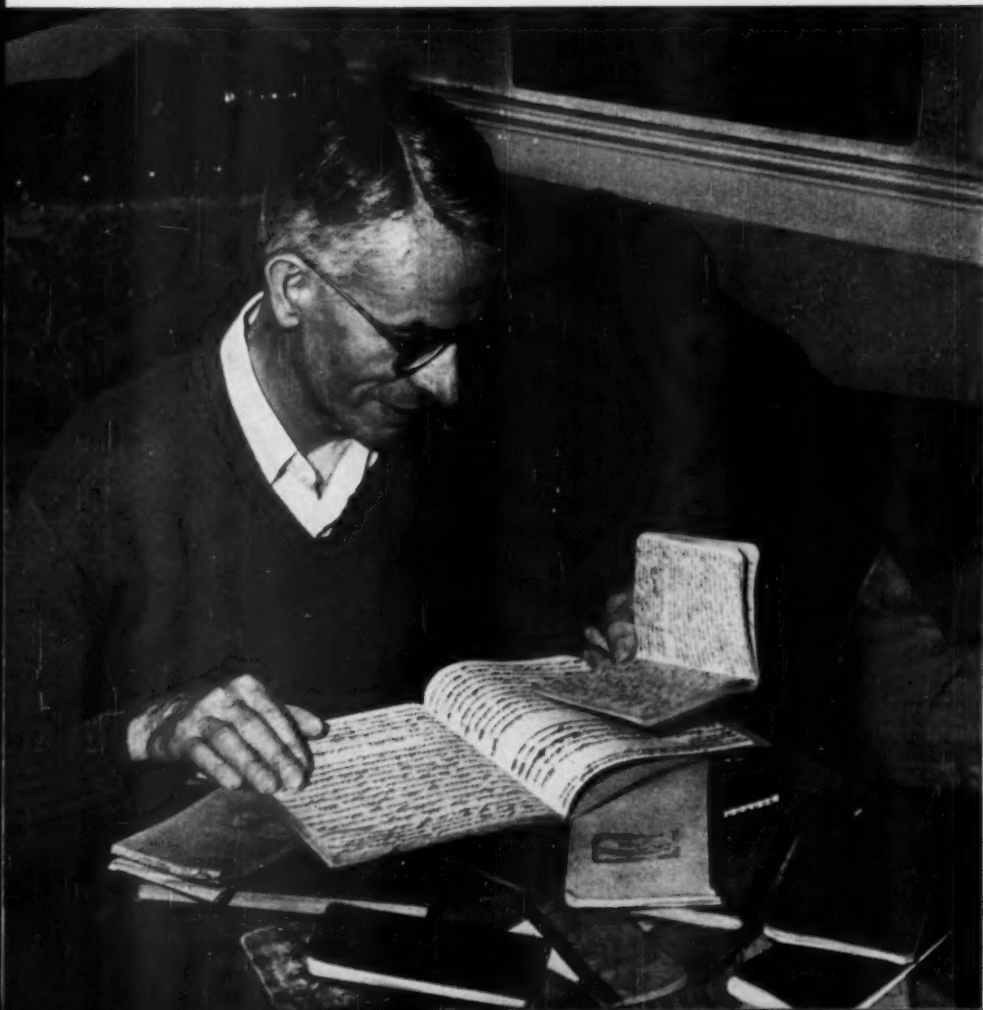
*All photographs by the author.*

—filling in a blank area—are of special importance to ornithology.

A small advertisement in a St. Johnsbury weekly newspaper, in 1917,

changed Smith's interest in natural history from a pleasurable hobby to something more. Edward Howe Forbush, Massachusetts State Ornitholo-

Smith looking over his notes which he jots down in a wide variety of record books.



gist and author of the celebrated "Birds of Massachusetts and Other New England States," had become concerned that no reliable bird records were available from the upper Connecticut Valley. In his advertisement, he asked anyone interested in keeping such records to communicate with him. Smith, then 25, was the only person to reply and he continued to send in his observations as long as Forbush lived! His field notes, accumulating over the years, are recorded in a wide variety of pocket notebooks, school composition books, ledgers and ten-cent-store record books. They carry his observations back to before 1905. For many years, he has been a regular contributor to *Audubon Field Notes*\* and he began reporting for the annual Christmas census five years after it was started in 1900 by Dr. Frank M. Chapman.

Wendell P. Smith was 11 when his family moved from Lyndonville, a village 30 miles north of Wells River, where he was born on September 17, 1892, to Eastman Hill, the farm where he has lived ever since. The house is more than a century old and the land has been in the possession of his family ever since his grandfather bought it in 1869. He pointed out a huge clump of interrupted ferns growing beside the front door. They have been there for almost half a century, a reminder of the natural history interest of his mother's family. They were planted at the time his aunt, Helen Eastman, was writing—and her brother, Wilbur Eastman, was illustrating photographically — "New England Ferns and Their Common Allies," a book published by Houghton Mifflin, in 1904, the year after Wendell Smith

first came to the farm. His mother had early bought him nature books and, when he was still a small boy, his uncle had loaned him his four-power bird glasses.

The year 1919 contained two events of special importance for him. He obtained the 6 x 35 Bausch & Lomb field glass he still uses and he was elected an associate of the American Ornithologists' Union upon the recommendation of Forbush. In 1937 he was elected to full membership. Virtually all of his traveling away from his home acres has been done in attending annual meetings of the A.O.U. and the Wilson Ornithological Club. In the United States he has traveled to New York, Boston, Pittsburgh, Charleston, South Carolina, Washington, D. C., Champaign, Ill., and Chicago, and, in Canada, to Ottawa and Toronto. At one A.O.U. meeting, some years ago, a museum lady had taken Smith in tow as a stray from the hinterland. When she explained fungi to him in kindergarten terms, he startled her by suddenly asking:

"Isn't that an unusually long stipe for an *Amanita phalloides*?"

The upshot was that he spent the evening lecturing before the local Mycological Club and later sent a mushroom from his farm unlike any even in the Farlow Herbarium, the branch of Harvard University that deals with algae and fungi.

His interest in nature embraces many fields. For years, he has noted the last appearance in fall and the first appearance in spring of various hibernating animals. While a woodchuck peered at us over the clover-tops from another hole, Smith showed me how he places small sticks and leaves over the burrow-entrances of the winter sleepers. Then, on his daily walks,

\* Subscriptions at \$2.00 per year are available at the National Audubon Society, 1000 Fifth Avenue, New York 28, N. Y.

he watches to see when they have been pushed aside by the emerging animals. Like Henry Thoreau, he is a trapper who sets his traps for facts. To take three recent years as a sample of his findings: the first raccoon appeared on March 15, in 1947, on March 20, in 1948, and on March 28, in 1949. The first chipmunk appeared on April 4, in 1947, on March 23, in 1948, and on April 7, in 1949, while the first woodchuck appeared on April 8, in 1947, on March 24, in 1948, and on April 1,

in 1949. His "Hibernation Calendar," based on years of observation, was published in *The Journal of Mammalogy*; his collection of hibernation dates for frogs and toads appeared in *The Bulletin of the New England Museum*.

When Donald Griffin was working at Harvard on the experiments that revealed the natural radar used by bats in avoiding obstacles in the dark, Smith guided him to an unusual cavern about 30 miles from Wells River, at Vershire, Vermont. Here, an aban-

**Smith examines a chipmunk burrow in a wooded area of his farm. For nearly half-a-century he has combined natural history studies and farming.**





doned copper mine, in which 3,000 men worked in Civil War times, runs for 4,000 feet back into a hill. In one day they banded 300 bats in this shaft and captured others which Griffin took back to his laboratory. You probably have seen one, a big brown bat, which was photographed in flight at 1/20,000th of a second in one of the most widely published of the early pictures taken with the Edgerton light.

On his farm, Smith has recorded five kinds of bats: the red bat, the silver bat, the hoary bat, the little brown bat and the big brown bat. His census of wild animals seen on his hundred acres includes the gray fox, red fox, mink, woodchuck, porcupine, raccoon, bobcat, Virginia deer, red squirrel, gray squirrel, flying squirrel, chipmunk, northern cottontail, snowshoe rabbit, Bonaparte weasel, star-nosed mole, Brewer's mole, short-tailed shrew, smoky shrew, white-footed mouse, red-backed mouse, woodland jumping mouse, Hudson Bay jumping mouse and meadow mouse.

In his study of the local mice, he told me, he was helped for years by Simba, a large black-and-white tomcat. Simba lived on the farm for a decade and a half, roaming the fields and bringing home a wide variety of small animals that added to Smith's collection. The mowing season also aids his mouse study. In cutting a hayfield, he begins at the edges and keeps circling until only a small patch of grass is left standing at the center. Then he stops to study the mice. The standing grass is always swarming with rodents which have worked their way inward from the circling mowing machine just as seabirds often seek the calm center of a hurricane.

One year, as he was mowing during the last of July, he was surprised to see a gray bird with a short yellow

bill, a bird curiously out of place in that upland hayfield, flutter from the grass. It was a sora rail. Another time, as he was driving his cows home from pasture, he glanced up and saw a flock of double-crested cormorants flying overhead. But his greatest surprise came on the fifth day of December, 1932. As he was making his way across one of his pastures, plowing through deep snow, he noticed a large bird fluttering in a drift, unable to rise. Stripping off his overcoat, he threw it over the bird and carried it to the house. It was a Brunnich's murre, a bird of the northern ocean, a species he had never seen before. It was unharmed and later, when he released it in open water on the Connecticut River, it swam off and then took wing.

During his early years at Eastman Hill, he witnessed a memorable invasion of three-toed arctic woodpeckers. Through some upsetting of nature's balance, between the years 1909 and 1914, an outbreak of spruce budworm laid waste whole forests in eastern Canada and northern Maine. It has been estimated that three-fourths of all the balsam trees in southern Quebec were killed. Wood beetles multiplied among the dead trees and woodpeckers, amply fed by the innumerable wood-boring grubs, multiplied too. In 1914 a paper mill on Wells River built a higher dam. The lifted level of water killed white pines on either side of the river. Among these trees, before they were felled, Smith used to watch the three-toed arctic woodpeckers, part of the excess population produced by the abnormal conditions farther north.

More than 4,000 of the birds that have visited Smith's hilltop farm have flown away with bands on their legs. He has been banding birds since 1923. For the past dozen years, he has been

vice-president of the Northeastern Bird Banding Association. Among the first birds he banded was a family of flickers. By enlarging the entrance to the hole slightly with a keyhole saw, he was able to insert his hand and thus make detailed records of weight changes as the nestlings grew. Year after year, until the tree blew down in a winter storm, he kept track of successive families of flickers that nested in the hole.

In connection with his bird banding, he has worked out partial life histories on the bluebird, the yellow warbler, the black-and-white warbler, the phoebe, the barn swallow and the junco as well as the flicker, amassing facts on when the parents begin feeding in the morning, how often and how many times they feed the nestlings at different stages in their growth, and similar information. He was the first to establish that the slate-colored junco may have two broods in one year. In 1928 a banded female returned from the south in April and nested in May. After the brood was reared, she nested again in July with a different mate, and successfully reared a second brood. The following year she returned with still another mate and again had two broods.

The great hurricane of 1938 gave Smith a chance to make some of his most interesting observations. His farm has about 40 acres of pasturelands and hayfields and 60 acres of woodland and bog. For years he has been making a breeding-bird census of his pine and hemlock woods, an area of about 50 acres. The maximum number of pairs he found nesting in the area before the hurricane was 84.

Then the autumn storm struck. Instruments in the region measured the wind at between 85 and 90 miles an hour. Strange birds — a gannet, a

Leach's petrel, a greater shearwater and three yellow-billed tropic birds—were swept up the Connecticut Valley. When the hurricane died out, Smith found that of the 105 pine and hemlock trees, a foot or more in diameter, that had been standing before, only two or three remained erect. The whole character of the woodland changed. Openings were formed. Bushes sprang up. New conditions brought new nesting birds. The bird count went up year by year. In the *Audubon Field Notes* for November, 1948, Smith reported the peak—182 pairs of nesting birds.

But now the tide has turned. As we walked about over the wooded hill, with its outcropping ledges of rock, we saw young trees rising between the fallen trunks. Natural reforestation is proceeding rapidly. The area is filling in, returning to its former character. Soon after the hurricane, mourning warblers appeared. They seemed to be attracted by the wild raspberries. Now the raspberry bushes are disappearing. Last year, in 1950, the bird count had dropped to 175 pairs of breeding birds and Smith expects it to grow less each year until it is back to the pine-hemlock-forest figure. These records, made on his home acres, have given ornithologists one of their most dramatic pictures of the rise and fall of the bird population of an area under rapidly changing conditions.

There is unique value in the kind of records Wendell P. Smith is keeping—observations set down decade after decade and covering the varied aspects of the plant and animal life of one small area. From the rocky fields of his northern farm he has produced more than hay and dairy products; he has produced, as well, a harvest of facts valuable to science.

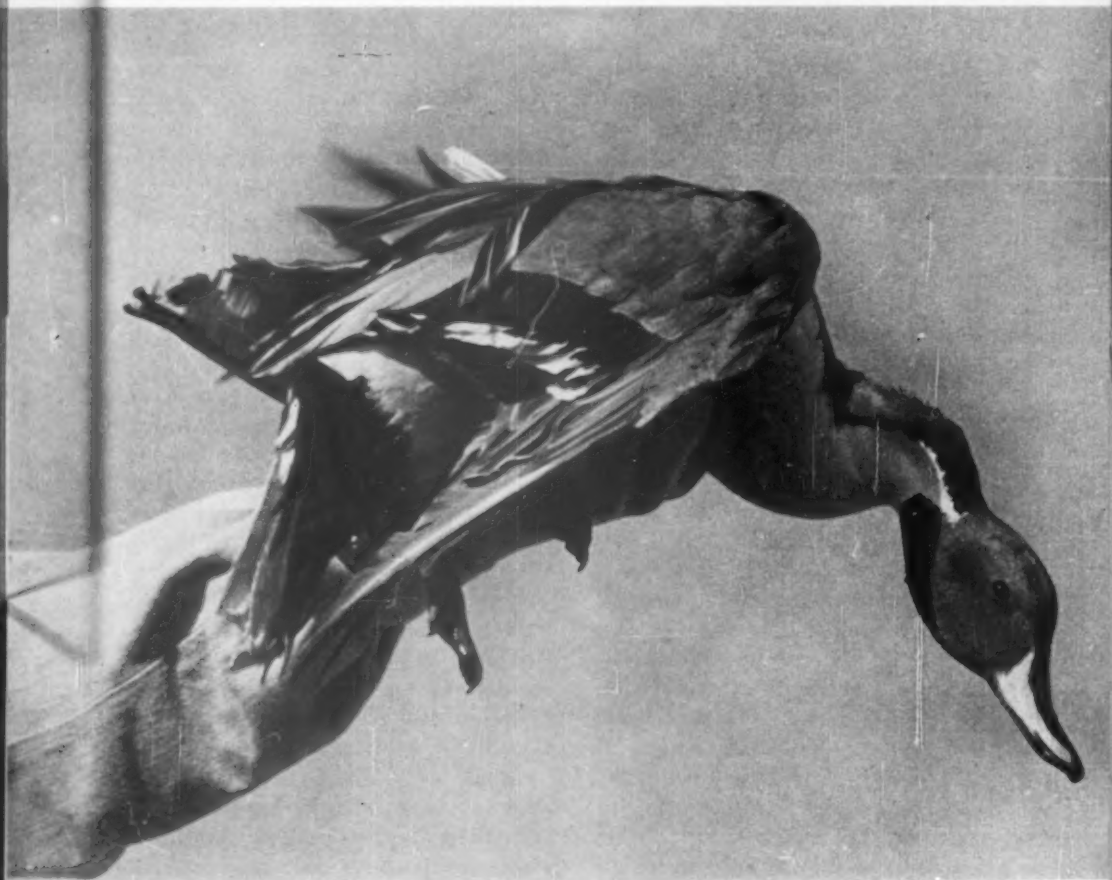
# D U C K S

By Lynn Trimm

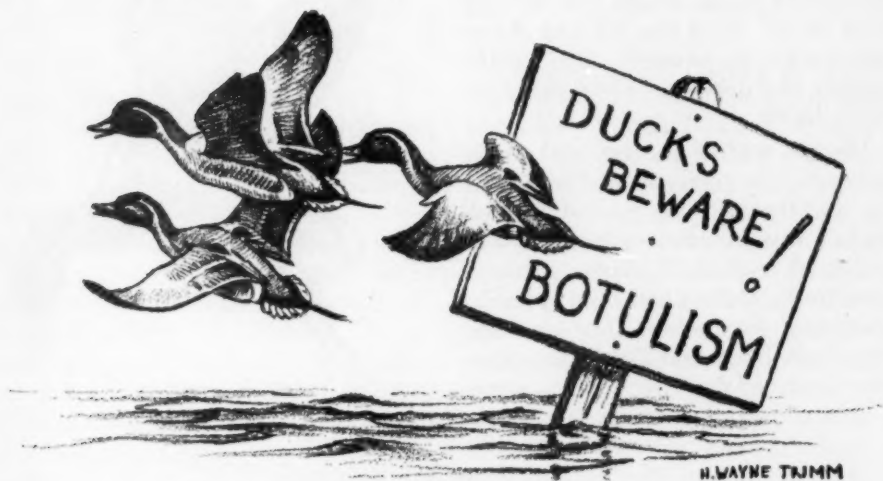
**When "western duck sickness" strikes, it brings grim tragedy to the marsh**

CLEAR Lake, in bird's eye view, must appear to be a duck paradise. It is a western Kansas slough about a mile long and a half mile wide with irregular bare banks of alkali-flaked mud. Well away from shore the still, shallow water is dotted with clumps of weeds and grass while the open expanse becomes larger to-

Male pintail duck, unable to hold its head up, is suffering from "limberneck" caused by botulism.



# A L I V E !



*All photographs and drawings by H. Wayne Trimm.*

ward the center. The slough is isolated from heavily traveled roads. It is surrounded by cultivated fields of grain. With its promises of rest, food and protection Clear Lake must indeed look like waterfowl heaven, but if ducks could read, I would construct a sign visible from the sky: "Ducks Beware! Botulism!"

Wayne and I\* found Clear Lake one brisk afternoon in early October. We had just arrived in western Kansas and were anxious to locate a likely spot for observing waterfowl. The High Plains country—flat, treeless, with very few streams or large bodies of water—frankly didn't look very promising. Not, that is, until we heard of the slough called Clear Lake. "It's alive with ducks," our informant said. Then he added, "Of course, nobody pays any attention to it except in hunting season."

\* For the story of this writer-artist team, see Lynn Trimm's previous article, "Bird-Man's Wife," *Audubon Magazine*, September-October, 1949 issue.

We followed his directions carefully. We turned right onto a gravel road a half mile west of the town of Amy; we went 13 miles due south; we turned west on the first dirt road after passing a farm with a large steel quonset-type barn; we followed this county-line road for two miles until we came to an abandoned road, then followed it north until we ran into the slough.

Run into it we nearly did, too, for the abandoned road led directly into the slough itself. As our car approached, hundreds of ducks took wing. There was the brief thunderous music of flight. Green-winged teal, mallards, pintails and gadwalls we followed with eager eyes.

"There's something strange here," Wayne said, drawing my attention from the circling ducks in the sky to the quiet water near us. "Why didn't all those birds fly?"

Within a few yards of the car, float-

ing quietly with their heads low along the surface of the water, some 20 ducks remained. We looked around the margin of the slough and saw the same thing. Near the cracked shoreline ducks sat passively, their necks relaxed and limber. They made no effort to fly.

We got out of the car and as we took our first steps toward Clear Lake we saw that it was not "alive with ducks" but rimmed with the dead bodies of waterfowl. Some carcasses were fresh. Others had been eaten by predators. Everywhere they lay along the alkali bank and far back among the weeds edging the fields—



Its head trailing weakly, the duck soon dropped back into the water.

N. WAYNE TRIMM

which were festooned with pathetic banners of white down.

"What happened to them?" I asked when I had conquered my first sick feeling. "What makes them die like that? And are all those listless birds dying too?"

"I'd guess it's botulism," Wayne told me—thus introducing a word much in my subsequent thoughts. "Let's walk around and see just how hard it's hit the ducks."

We walked about halfway around the receding waterline and estimated that there were from 1,500 to 2,000 dead birds. Not all were ducks for we saw the body of a black-crowned night heron and those of six hawks as well. We figured there were at least 500 dying ducks on the water. Some of these still had spirit enough to try to fly but it was a pathetic effort.

Heads trailing between beating wings, their thin bodies were not aloft for long and they soon dropped back into the water.

As we drove back toward town our talk was serious. "What is botulism exactly?" I asked, still seeing the thousands of dead and dying birds at Clear Lake.

"It's a form of food poisoning," Wayne told me. "It's similar to the botulism humans may get from eating tainted green beans and the like. It can attack poultry, too, and in them it's called 'limberneck.' Remember how the ducks' heads drooped?"

"But why at Clear Lake?" I persisted. "Is there something special about the situation there that fosters the disease?"

We were nearly home and my husband's response didn't surprise me.



"Let's look it up and be sure," he said.

Our library yielded several accounts of botulism in ducks. The most concise and applicable record was that in "The Ducks, Geese and Swans of North America" by Francis H. Kortright. He told of "western duck sickness" which attracted nation-wide notice when tens of thousands of ducks were found dead in the region of Great Salt Lake, Utah in 1910. Periodic outbreaks since led to the study of causes which were found to lie in a bacterium, *Clostridium botulinum* type C, a form of botulism. In describing factors favorable to the bacteria Kortright says: "This organism thrives under conditions of decay of dead organic matter, animal or vegetable, in an alkaline environment; shallow stagnant water and hot weather are factors that greatly favor

development of these conditions of decay." We recalled cracked, dried mud, receding shoreline, decaying weeds in shallow stagnant water and nodded our heads in agreement.

That night the local game protector brought in one of the dying ducks and asked Wayne to diagnose its ailments. He read aloud from our source books. While the game protector hastened to contact a federal Fish and Wildlife Service field man to corroborate our convictions, we busied ourselves trying to save the pintail drake. We force-fed and watered it, but despite our efforts the emaciated bird died.

In a few days the federal field man arrived, confirmed our findings of botulism and left again. We waited, hoping for some remedial action on the part of either the state or federal

*Continued on Page 324*

**A dying female pintail lies upon the cracked, drying mud and decaying plants of a receding shoreline where the deadly bacteria of botulism thrive.**



## Audubon Centennial Stamps



SUMMER TANAGER

NATIONAL AUDUBON SOCIETY

"This bird sings pleasantly during the spring, for nearly half an hour in succession . . . although its notes have some resemblance to those of the Red-eyed Vireo, they are sweeter and more varied . . . I have represented an adult male, his mate, and a young bird in its . . . patched state, to enable you to judge how different a family of these birds must appear . . . The vine on which you see them is . . . the *Muscadine*." John James Audubon, p. 223, Vol. III, "The Birds of America," George R. Lockwood & Son, New York. (The muscadine, scuppernong, or Bullace-grape, is *Vitis rotundifolia*, sometimes called southern fox grape.—The Editors.)

"The Mallards generally arrive in Kentucky and other parts of the Western Country, from the middle of September to the first of October . . . as soon as the acorns and beech-nuts are fully ripe. In a few days they are to be found on all the ponds that are covered with seed-bearing grasses . . . Now towards

the grassy margins they advance in straggling parties. See how they leap from the water to bend the loaded tops of the tall reeds. Woe be to the slug or snail that comes in their way." John James Audubon, p. 238, Vol. VI, "The Birds of America," George R. Lockwood & Son, New York.



MALLARD DUCK

NATIONAL AUDUBON SOCIETY

From paintings by John James Audubon



BLACK-BILLED CUCKOO

NATIONAL AUDUBON SOCIETY

"The flight of this species is swifter than that of its . . . relative, the Yellow-billed Cuckoo, for which bird it is easily mistaken by ordinary observers . . . The Black-billed Cuckoo is rare in all the Southern States, my friend, Dr. Bachman, never having seen it in the mari-

time districts of South Carolina . . . It being so scarce a species in Louisiana, I have honoured it by placing a pair on a branch of *Magnolia* in bloom." John James Audubon, pp. 300-301, Vol. IV, "The Birds of America," George R. Lockwood & Son, New York.



SNOWY OWL

NATIONAL AUDUBON SOCIETY

"This beautiful bird is . . . a winter visitor of the United States . . . I have occasionally seen it in the lower parts of Kentucky, and in the State of Ohio . . . The Snowy Owl hunts during the day, as well as in the dusk . . . It is fond of . . . rivers and small streams . . . on the borders of which it seizes on fishes in the manner of our wild cat . . . Its usual food, while it remains with us, consists of hares, squirrels, rats, and fishes . . . all of which I have found in its stomach." John James Audubon, p. 113, Vol. I, "The Birds of America," George R. Lockwood & Son, New York.

# AUDUBON'S



Audubon knew this animal as the Leopard-Spermophile, and found it abundant along the Upper Missouri. It is the thirteen-striped ground squirrel, *Citellus tridecemlineatus*.

*Illustrations are photographs of Audubon drawings from "The Viviparous Quadrupeds of North America."*

Most people associate the name of John James Audubon with his great work, "The Birds of America." His second and less well-known production, "The Viviparous Quadrupeds of North America," originally published in two volumes (1845-1846),



# ANIMALS\*

By Alice Ford

has remained a relatively obscure work. For the first time, the complete collection of mammal drawings from these volumes are reproduced in color, and black and white, with an edited text, in "Audubon's Animals," from which the following chapter has been taken.—THE EDITORS.

BY 1848 all of the large folio-size color plates of *The Viviparous Quadrupeds of North America* were finished. All the originals for the lithographs of Volume One were by Audubon senior, as well as twenty-eight in Volume Two, or seventy-eight in all. The remaining originals

\* Chapter 6 of "Audubon's Animals," edited by Alice Ford, to be published in October 1951 by T. Y. Crowell, New York, N. Y.



for Volumes Two and for all of Volume Three were the work of John Woodhouse Audubon, assisted by Victor Gifford Audubon who executed many of the backgrounds.

Audubon, who died on January 27, 1851, did not live to see the last two volumes of the text completed, but these drew heavily on his collection of anecdotes and copious notes as well as his Missouri river journal. Bachman, who edited the material, contributed a goodly number of his own descriptions of the habits of the mammals pictured by the Audubons. The frequent references to "the Creator" may, for the most part, be safely attributed to him, although Audubon was also given to making such devout allusions. Almost all of the truly sparkling and readable passages are recognizable as pure if slightly edited Audubon, sometimes by comparison with his *Episodes of Western Life* and the style of his letters, other times by unmistakable signs such as mention of Kentucky, the West, or Minnie's Land. By the same token, references to Charleston and the northern counties of New York point clearly to Bachman as author.

As for what John Woodhouse Audubon contributed to the text, this is no mystery; his Texas journal is quoted, and Bachman identified him as the source wherever he had such responsibility. The fact that Volume One of the text is generally the best because it was prepared along with Audubon's spirited direction is the answer to those who may feel that Bachman was the prime mover. He complained to his biographer in 1874, the year he died, that he had been "overlooked" by the Audubon heirs in their writings about the artist and his career, saying disappointedly: "I wrote every line which composed the

latter volumes of the *Quadrupeds*."\* Certainly he could claim full credit for scientific data, and much besides, but this man with the motto, "Truth and No Humbug," was perhaps overestimating his part. The latter volumes are also heavily indebted to John Woodhouse, the son, whom Bachman might have included in claiming credit for the latter volumes; indeed these, too, contain passages from Audubon senior's memoranda.

After Audubon's return from the West, Bachman threw himself into the work with such intensity for a few years that his sight was threatened, once by a gunpowder accident, more than once by eyestrain. In the end he had to dictate from his notes to Victor, who went to Charleston to help finish up the text. Before this, however, he experienced such moods of desperation for want of certain books and specimens that when the Audubons, who had no such intention, seemed to ignore his now pathetic, now humorous pleas, he wrote to Edward Harris to intercede. He even threatened to resign. Harris more than once restored peace to their widely separated efforts, which were constantly hampered by distance, the slow communications and frequent steamer mishaps. Bachman, moreover, was none too contented with the results of the Missouri expedition, which concerned itself overmuch with buffaloes and large mammalia, in his opinion at the expense of "the little Marmots, Squirrels and Jumping Mice." It had, for his conservative taste, too much of Culbertson and "his princess brain-eating, horse-straddling squaw," as he expressed it. But he was obliged to pronounce Audubon's accounts of buffalo hunting "first rate."

\* Charleston Museum Collection.

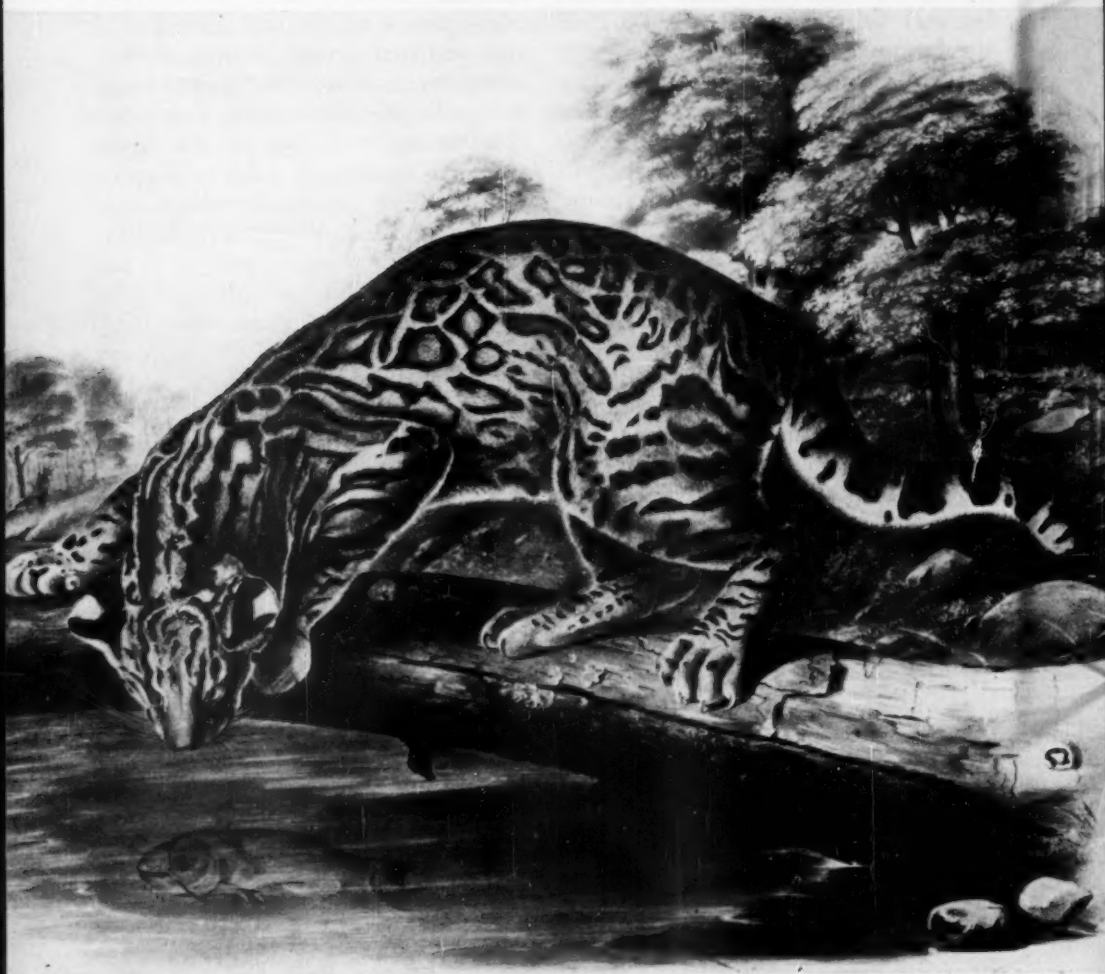
When he examined the new supply of lithographs for the *Quadrupeds* in the spring of 1844 Bachman's annoyance completely vanished. "They are most beautiful and perfect specimens of the art. I doubt whether there is anything in the world of Natural History like them. I do not believe that there is any man living that can equal them," he wrote.\* Here was not only a collaborator's opinion but that

of one of the country's revered and respected scientists, who, when occasion demanded, could turn the coin and denounce the hasty scientific judgments sometimes made by the Audubon artists. But Audubon's "brush," he always maintained, was "a truth teller."

Bachman visited the painter in 1845, and found him working on a

\* Charleston Museum Collection.

The ocelot, or leopard-cat, *Felis pardalis*, painted by Audubon's younger son, John Woodhouse Audubon, is a tropical animal of Central and South America, occurring in the United States in southwestern Texas.



fine water color of "Le Conte's Mouse." His technique had lost none of its brilliance, but a change was becoming visible in Audubon—the old tenacity, the keenness, the familiar drive were missing. Bachman, more than a little sadly, saw that he must confine his good-natured cajoling to John and Victor. John was then preparing for an expedition into Texas to obtain more quadrupeds, an adventure which provided the text with some stimulating passages. The following year, 1846, Audubon, aware that his eye and hand were becoming less sure, withdrew from the work on the letterpress, letting his sons carry on under Bachman's direction. The decision destroyed the artist's will to live, and hastened his decline.

John spent a year and a half in London in 1846-47, painting in the Zoological Gardens and museum, and consulting endlessly with Gray and other leading scientists. A world which has overlooked his talents—the traditional lot, perhaps, of great men's sons—may be interested in Audubon's opinion of his son as a nature painter. In a short account of the life of her father, John Woodhouse Audubon, Maria R. Audubon described her distinguished grandparent's elation on examining an oil sent from Texas for the *Quadrupeds*.

"My mother has told me," she said, "that when the picture of the Cougars came from Texas where my father had painted it, my grandfather's delight knew no bounds. He was beside himself with joy that his 'boy Johnny' could paint a picture he considered so fine. He looked at it from every point, and could not keep quiet, but walked up and down, filled with delight."

The question naturally arises, was John the equal of his father at paint-

ing mammals? In justice to both it is difficult to answer fairly. Were the answer to be simply yes or no, the father would be the inevitable choice, the man who, to the world, is "Audubon"—as if there were but one, and one only. His genius at capturing animation and the warily alive aspect of wild life is sometimes so startlingly real that it is as if the image were caught fleetingly, momentarily, on paper. Not even Dürer, great sixteenth century German, conveyed this *wild* quality in his incomparable hares and squirrels, though, in their tameness, these possess no less of the mystical and spiritual power of nature. But this contrast is not a bid to place Audubon before that master!

Audubon left most of the larger mammals for his son John to portray, concentrating on small rodents—rabbits, marmots, squirrels, and the like. It is doubtful whether anyone, if put to the test, could view all the mammals by both and guess unerringly which of these men did which. Many of the small rodents by John Woodhouse Audubon would certainly be taken for his father's work, and the large ones for Audubon's. The reader is invited to try his own luck at the proper attribution.\*

So difficult is such a test that it leads to the certain conclusion, long overdue, that this son of J. J. Audubon was an American animal painter of the first order, one who, until now, has been completely overshadowed by his father's name and greatness as a bird painter.

John organized an expedition to seek wealth and animals in California in 1849, the year of the Gold Rush. Several of his large company died of cholera along the way. The under-

\* The initials J. J. or J. W. under the plates denote the work of father and son.

taking was tragically unsuccessful. John returned home overland, leaving some two hundred new drawings and oils for a friend to carry to New York by boat, but the vessel sank with all its passengers and cargo.

The indomitable Madame Lucy Audubon, who lived until 1874, published a life of her husband in 1866, and took up teaching again in her seventieth year.

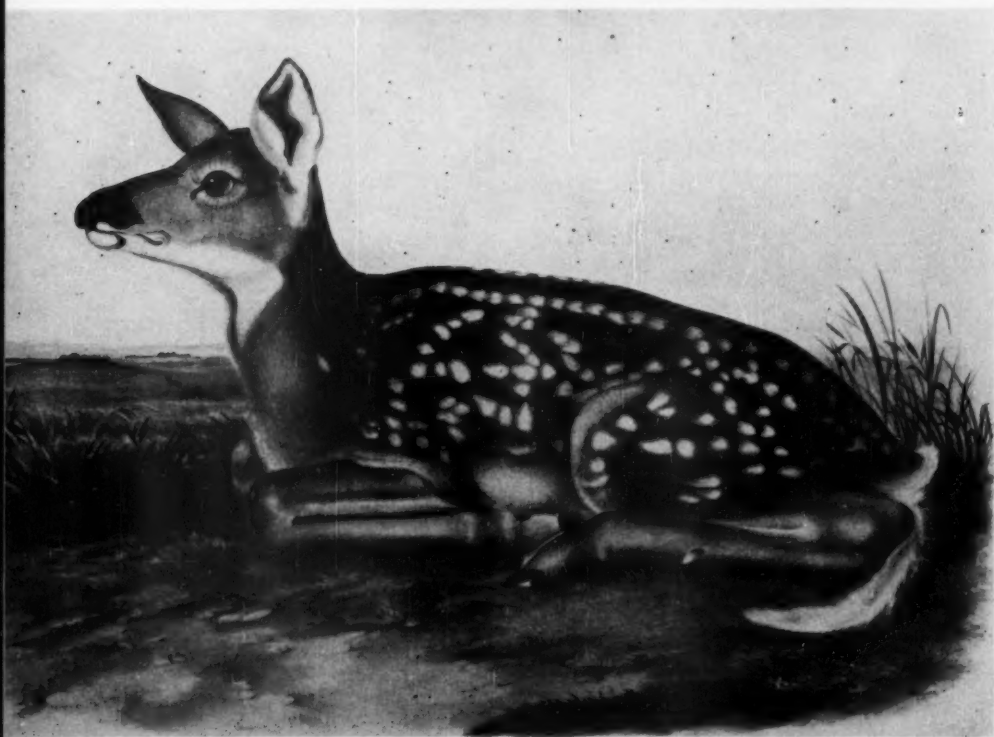
But John and Victor, their lives doubtless shortened by their strenuous part in Audubon's plans, did not long survive him. Victor, father of six, died in 1860. John died two years later, leaving a wife and nine children.

Because of his relatively lusterless place in the Audubon triumvirate,

Victor's name is invariably mentioned last. But his tangible contribution was enormous, as witness an Act of Congress of 1858 whereby a hundred miniature sets of both *Quadrupeds* and *Birds* were presented to the governments of foreign nations. The honor was due in great part to Victor's labors in having, for nine years, ushered the folio and small editions to the printer Bowen in Philadelphia beginning in 1845, and into the hands of the many subscribers eager to receive them.

This, in brief, is the little known history of Audubon's *Quadrupeds*. The second of his eminently destined scientific works was achieved with all the strength and beauty of his vision.

The white-tailed, or Virginia deer, the fawn of which John James Audubon painted (below), was a favorite animal of the great artist-naturalist.



# S E P T E M B E R

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What instinct prompted  
the wanton killing of  
this beautiful egret?

*Photograph of American egret by Allan D. Cruickshank.*





# TRAGEDY

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By Ralph W. Stark

LATE September's sun was but an hour from setting and already the big bur oak tree near the foot-bridge had cast a long shadow over the waters of the little stream as far as the bend. It was a Sunday evening and my family and I, enjoying a leisurely stroll in the grove of gnarled oaks and lightning-scarred walnut trees, approached the small wooden bridge spanning the creek. As I stepped upon the bridge, I caught a glimpse of white against the blackness of the shadowed water. Lifting my hand to my companions, I took a second look.

There, not more than a hundred feet upstream, with its back to us, poised an American egret, statuesque in all its glory of snowy white feathers, glistening black legs and gleaming yellow bill. It was the first one that I had seen in central Indiana. We seated ourselves quietly on the bridge plank-ing and for half-an-hour, until it was hidden from view by the high bank at the turn of the stream, we watched this bird fish for its evening meal, apparently unaware of our presence.

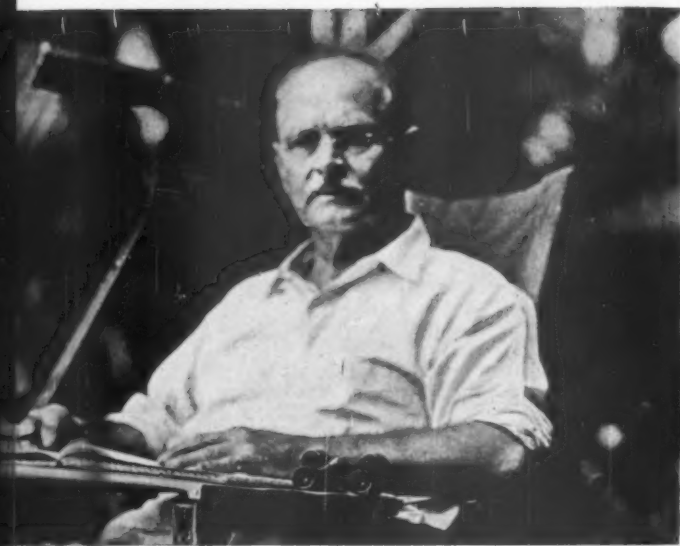
Surely no other living thing stalked its prey with more caution than did this egret that moved forward, step by step, with great slowness and deliberation. So painstakingly did it raise each foot from the water, place it forward and in again, that the tall white bird made not the slightest ripple on the surface. While it moved forward, it turned its head from side to side, peered intently at the water and occasionally stabbed the surface with a

lightning-like oblique movement. Each stroke brought it some choice tidbit, especially relished, I presumed, by egrets. Try as hard as I could, I was unable to see whether the bird was catching small minnows or crayfish, but I surmised it was dining on minnows as the stream was teeming with them.

At no time did the egret show that it was aware of our presence. Undisturbed and unalarmed, it continued in the pursuit of its "daily bread" until it rounded the bend of the stream and was hidden from our sight. Turning to leave, I voiced a prayer for the safety of a creature of such matchless beauty, and longed that it might make the flight to join its fellows in the marshes of the warm southlands in safety and without mishap.

My well-wishing was of no avail. Two days following, I found a welter of snowy white feathers, with the glistening black legs protruding from beneath. The gleaming yellow bill, the shapely head and long neck were folded back over the body which lay along the fence skirting the stream, only a few hundred yards from where I had seen the bird the previous Sunday.

I have since wondered many times what was in the heart of the hunter, if he had a heart, as he leveled his gun at the wholly harmless and inoffensive sojourner in our land. And I have wondered, too, if the hunter, when he carried the body from the creek and threw it by the fence, did not have a moment of shame for the criminality and utter futility of his act.



Christmas bird counts were originated in 1900 by the late Dr. Frank M. Chapman. Photograph courtesy of The American Museum of Natural History.



At Montauk Point, Long Island, a National Audubon Society Convention group studies wild ducks. Photograph by Ray Crewson.

### EDITORS' NOTE

In America, a hobby is usually a sport, or some other form of amusement which provides us with either violent or mild exercise, keen enjoyment and pleasant preoccupation. A hobby is often an escape from what may be a dreary routine of living, but it is seldom thought of as being of value to science. That is what makes the sport of bird-watching excitingly different.

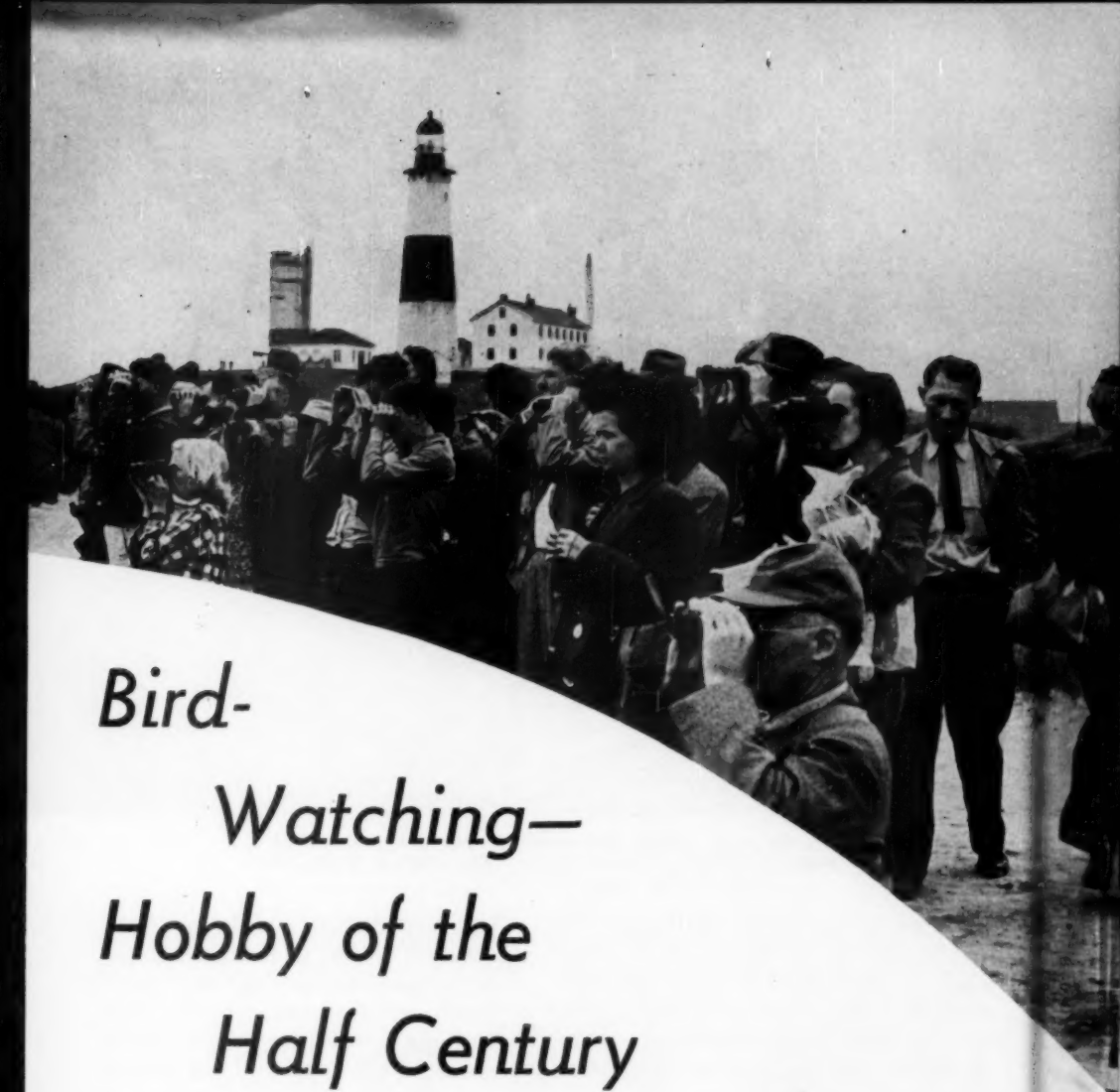
Bird-watchers, participating in Christmas bird counts in the United States and Canada for the past 50 years, have gathered a vast assemblage of facts about wintering birds, year after year, within the same areas. From these we have learned far more about the distribution of individual bird species; whether wintering birds, generally, or locally, are scarcer or more abundant than in previous years. When these facts are correlated with weather data, the food supply of birds, and other variable factors in a bird's environment, we may sometimes discover the reasons for changes in bird populations.

As a result of our bird counts and bird habitat studies, we now have a better understanding of the needs and requirements of the bird in its natural world and can offer greater encouragement and better protection to birds. Although bird-watching may be considered a hobby, there is scarcely another group of hobbyists who, by their studies, have done so much to preserve the creatures that provide them with their sport.—The Editors

By Richard G. Beidleman

IT WAS autumn in Kentucky in the year 1813. John James Audubon, a young man of 28, had given up his general merchandise store in Louisville the year before and had moved down river with his family to the little town of Henderson on the red clay banks of the Ohio. Trips back to Louisville for supplies, however, were frequent; and the journey over the barrens near Hardensburgh and through the oak, maple and beechwood forests along the Ohio River afforded the itinerant naturalist innumerable glimpses of wildlife.

Garrulous flocks of slate-colored juncos and sparrows scattered from their seed-gathering before his horse; the raucous blue jay, bounding from branch to branch above the passing Audubon, excitedly cried its woodland warning; an occasional pileated woodpecker, startled from a tree trunk excavation, flapped quickly away into



# Bird- Watching— Hobby of the Half Century

the forest. Audubon watched them all, the red fox and wild turkey, the chickadee and otter, but was most impressed by the sky-darkening flocks of passenger pigeons.

"You've seen them yourself, Jim," he told the proprietor of Young's Inn one October afternoon while pausing in West Point for dinner on the way to Louisville. "I stopped up near Harboursburgh this noon and tried to count all the pigeons that flew over within an hour's time. I had 163 flocks

after only 21 minutes and gave the job up as hopeless. The birds were flying across above me in such numbers and with such a buzzing of wings that I became dizzy."

The innkeeper shook his head. Such a curious man, this long-haired talker. Counting birds and, so it was whispered in Louisville, *painting* them as well!

When Audubon resumed his ride to the Falls of the Ohio, the shimmering legions of pigeons still clouded the sky



**In the early 1900's, bird-watching was slowly becoming a popular pastime. Photograph by Jesse Tarbox Beals, Inc.**

from the tranquil river behind to the beechwood forest that stretched eastward as far as the eye could see. For three days the birds continued to pass over in undiminished numbers while Audubon watched and counted and calculated.

"How many do you think there are, John?" queried one of Audubon's former customers at Louisville over a steaming dish of pigeon pie. "You're a man who knows a lot about things like this."

"All of them? Who knows! I figured last night that with two pigeons to a square yard of sky, a flock that takes only three hours to fly over Louisville would contain 1,115,136,000 pigeons."

"Unbelievable, simply unbelievable! Makes one wonder if they will ever pass by . . ."

But like Kentucky autumn, the pigeons did pass by and away, together with the man who watched and counted them. Audubon, the artist and naturalist, died on January 27, 1851, in the same year that Jenny Lind sang in Young's Inn on the Ohio River. As time rolled by, farmhouses sprung up where passenger pigeons had formerly gathered in the beech woods. Audubon's trail across the Hardensburgh barrens became an asphalt link connecting with the Dixie Highway, and the whirl of wings in the air above the winding Ohio was replaced by the drone of airplanes.

On December 31, 1949, almost 100 years after Audubon's death and 136 years since he had made the big passenger pigeon count, a small group of people walked or rode up and down

the heavily wooded Ohio hills, through brush and farmland where once the great naturalist's footsteps had fallen. The red-shouldered hawks, the tufted titmice and cardinals of field and forest watched the intruders move through the Otter Creek area. With binoculars and field glasses, bird guides, notebooks and pencils, nine people watched and counted the birds as Audubon had counted them many years before.

Five days earlier, on December 26, 1949, in the rain and fog that shrouded Tennessee's large Reelfoot Lake, six observers watched and counted almost 2,500,000 birds between dawn and sundown. On the same day around St. Francisville, Louisiana, along the Mississippi, in country where as a man in his thirties, Audubon used to lie under the magnolia trees watching the mockingbirds and later drawing them, Samuel Army, Mary Ann Moore, and

a host of others counted 86 mockingbirds and 104 additional species of birds.

Between December 24, 1949, and January 1, 1950, about 4,600 people from 47 states, Canada, Hawaii, and the District of Columbia watched and counted birds after the manner and in the name of Audubon. It was not coincidence that so many people should be doing the same thing at the same time, nor was it the first collective bird count. When at dawn on December 24, 1949, Joseph Biggs of Washington, North Carolina, and four residents of Mount Holly, New Jersey, gulped down their breakfast coffee, turned up their coat collars, and stepped out into the chilly morning air, they became the launchers of the National Audubon Society's Fiftieth Christmas Bird Count.

During the latter part of December in the year 1900, 27 people participat-

**Members of the Audubon Society of the District of Columbia, participating in the 48th (1948) Christmas Count.**







Portland (Oregon) observers counting ring-billed gulls on the Willamette River. Photograph by W. H. Crowell.

ed in the first Christmas bird count. This novel idea of counting birds at yuletide had been originated by Dr. Frank M. Chapman, then editor of *Bird-Lore*, now *Audubon Magazine*. He had conceived the Christmas bird count as a substitute for traditional Christmas day "side hunts," excursions which usually resulted in the heartless slaughter of thousands of furred and feathered creatures throughout the country.

Although certainly a significant

bird-watching landmark, Dr. Chapman's invitation to spend "a portion of Christmas day with the birds" was not tendered to a country where people had never before watched the birds. As far back as 1534, when Jacques Cartier guided his sailing vessel by the Bird Rocks off Nova Scotia, and in 1540, when Francisco Coronado, seeker of the fabled cities of Cibola, marched his party of Spaniards and Indians northward into the home of the phainopepla and road-runner, American birds had been recorded by men.

Many were the early individual observers, including Audubon and Alexander Wilson, who watched, counted and recorded. What lay ahead for cooperative bird watching became evident in 1882 when Professor Wells W. Cooke of the U.S. Biological Survey called upon ornithologists of the Middle West to contribute "notes on the winter birds and reporting dates of the spring arrivals." There were 13 contributors in that year and 160 by 1884, whose field observations were woven into a comprehensive picture of bird migration in the Mississippi Valley. Many of the men who participated in Cooke's study were professional ornithologists, members of the newly formed American Ornithologists' Union. It was fitting that the Audubon Society, an outgrowth of the A.O.U., should a few years later, in 1900, inaugurate the first national bird census for amateur ornithologists.

The New York City dweller airing

Tucson (Arizona) Christmas bird counters in the Santa Catalina Mountains.



his dog in Central Park on that Christmas day of 1900 probably didn't give a second glance at the 12-year-old boy eagerly scrutinizing the many white-throated sparrows that scattered before him. Nor might residents of Keene, New Hampshire, or North Freedom, Wisconsin, have done more than shake their heads at the bird watchers they saw that Christmas season. Within 50 years, however, residents of communities in almost every state were not only aware of the Christmas bird watching tradition through newspapers, books and magazines, but 4,615 of them—including Charles Rogers, the Central Park boy of 1900, now with 50 years of bird-counting experience behind him—were in the field. Some went ahead singly, others in groups as large as 75 individuals, between December 24 of 1949 and January 2 of 1950, to count the birds.

Into the crisp dawn, with binoculars and notebooks, went Dr. Chapman's 1949-1950 bird hunters, here two in a car, there three afoot, one in a boat in St. Charles, Arkansas. After five hours in field, mountainside, or swamp and forest, the party might converge for a hot lunch. Arizonians might exchange excited words over the gray vireos they had counted; on Cape Cod, easterners enthused equally over the western tanager they had seen. As the day faded and the birds across the continent became dark silhouettes against the sunset, the watchers returned with their lists, compared notes, compiled their totals and congratulated each other, like the Harlingen, Texas folks with their 151 different bird species seen during the day, and the Reelfoot Lake, Tennessee computers with their total count of 2,513,111 birds.

On the fiftieth Christmas bird count,



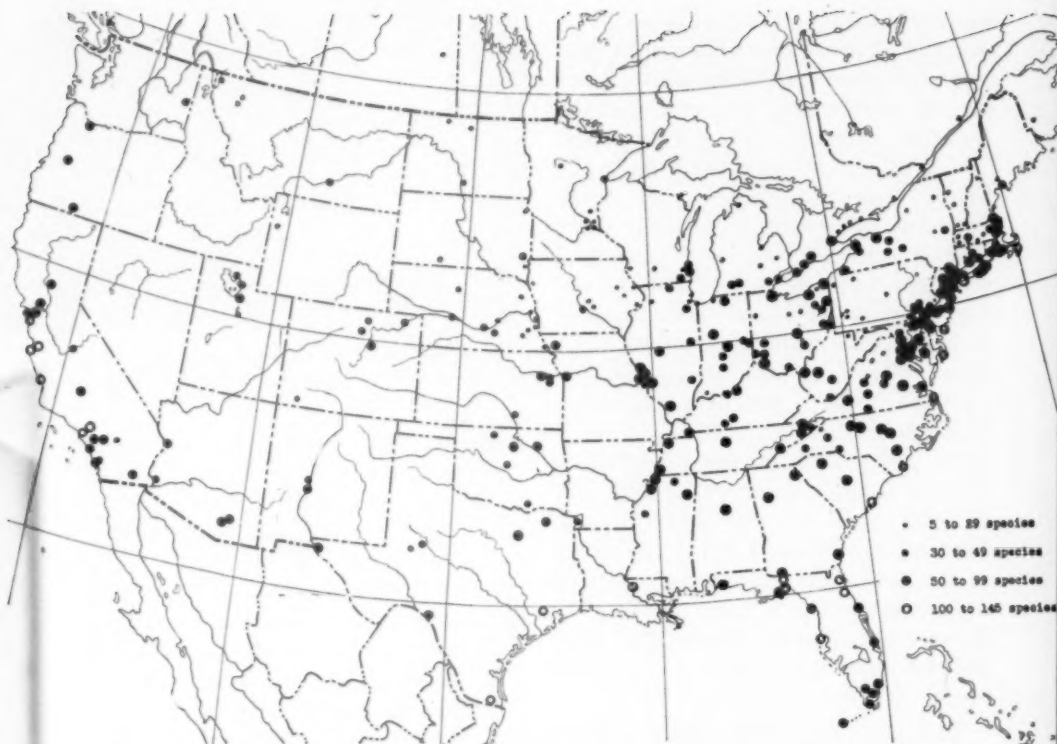
A group from the Audubon Camp of Maine watching birds near Franklin Light. Photograph by Allan D. Cruickshank.

amateur and professional watchers had expended 9,000 party-miles' worth of shoe leather and 26,000 miles by automobile to count 8,600,000 birds. In the 50 years that had passed since the first count in 1900, bird watchers had sought out the birds by every conceivable form of transportation available, including the airplane, armchair, autobus, automobile, bicycle, canoe, dog-team, duckboat, electric railway, ferry, horseback, ice skates, jeep, marine patrol boat, motorboat, pole boat, rowboat, skis, sleigh, snowshoes, steamship, streetcar, subway, train, truck and, of course, by shank's mare.

On occasions, getting the compiled report to the local bird census editor by deadline time involved as much in-

Alexander Sprunt, Jr. (looking through binoculars) leads a bird-watching group on an Audubon Wildlife Tour in Florida. Photograph by Allan D. Cruickshank.





Map showing the distribution of the 50th Christmas bird count taken by bird-watching groups throughout the United States between December 24, 1949 and January 2, 1950.

genuity as getting out to see the birds. In the beginning, reports were sent to Dr. Frank Chapman, to be edited and compiled by him for publication in *Bird-Lore*. At least twice the reports came in by amateur radio relay, in 1927 from "apparently a dead world" of ice and snow around Anaktalok Bay, North Labrador and a decade later from St. Anthony at the isolated northern tip of Newfoundland. Air mail transmittals were routine affairs by mid-century, but it was an excited member of the *Bird-Lore* staff who, in 1925, put the exclamation point after the statement that the record-breaking list of 102 species from the Dawsons of Santa Barbara, California had arrived by air mail! This was at a time when day and night air mail service between

California and New York was in its infancy.

As Dr. Chapman's Christmas pastime became a yuletide tradition, the participants began bobbing up in almost every reputable cattail slough and city park throughout the country and a few beyond. While the more settled citizens were content to send in their reports to Chapman from such American localities as Dried Meat Lake, Zephyrhills, Happy Hollow, Red Wing, and Overpeck Creek, an adventurous few wandered about the globe, transmitting their Christmas bird censuses from Vaddukoddai, Ceylon, San Luis Potosi, Mexico, Dindigul, India, Kiangyin, China, Lukolela, African Congo, Swimbridge, England, Cienfuegos, Cuba, 400 miles at sea in the

North Atlantic, and half a dozen other enchanting spots such as Pisco Bay, Peru, where counter William Vogt\* included incubating eggs in his Christmas-time dispatch.

At the opposite extreme of wanderlust was the woman who counted 16 different species and 543 individual birds from the windows of her home on a main street in Doylestown, Pennsylvania. An "ocean-to-ocean" count was made in 1944 by ornithologist Dr. Arthur A. Allen and five other observers who ferreted out 7,174 birds across the width of the Panama Canal Zone. Perhaps the most amazing distance covered by any single observer in a yuletide count was that of Ben B. Coffey. Starting out with a group in San Francisco that counted 7,275 birds on December 17, 1944, Lt. Coffey, United States Army Air Corps, counted 2,599 birds on December 23 in Palo Alto, California, and arrived at Mill Neck, Long Island, New York, on Christmas day, where he counted 1,207 more birds. He then completed what must have been an enjoyable Christmas leave by a final count of 22,332 birds with friends in the Bronx-Westchester region of New York state.

Many of the Christmas bird-counters and the birds that they counted have interesting stories. In addition to the thousands of birds which routinely pass within the field of the ornithologist's binoculars there have been oddities like the liberated cage bird which was included on one of the early census lists, a yellow palm warbler caught alive in a house, four cowbirds at a piggery, a ring-necked pheasant being chased by a mink, a dead bronzed grackle hanging by its foot atop a 75-foot cottonwood, a screech owl found asleep in a hole, an oil-soaked and

freshly-eaten razor-billed auk, and a bufflehead taken from a hunter's game bag. The sole surviving heath hen from Martha's Vineyard was included in the 31st Christmas Count of 1932, which was published two months after the bird had died.

In southern California's Griffith Park the birds refused to show themselves for counters of the 23rd Christmas census because of the noise made by a movie company making pictures.

Numerically large counts include the 310,000 robins from a single roost near Nashville, Tennessee, Ludlow Griscom's report of a continuous flock of herring gulls which "lined the ocean front on the beach for more than six miles," and the unbelievable census of 3,024,000 birds from the Sacramento National Wildlife Refuge.

In 1908 Mrs. Chatsey of Fredonia, New York, tramped for six miles and met only two house sparrows and eight small boys with guns, both of which she included in her report. When H. B. McConnell of Cadiz, Ohio, was about to get into his car on the morning of his 45th consecutive Christmas count, a pipit obligingly strutted into the garage to be counted. Less lucky than Mr. McConnell were a pair of watchers, one of them a minister, from Wells River, Vermont. They started the 42nd Christmas Count in 1941, and were picked up by police as suspicious characters. After release, the pair wandered into a bottomless sphagnum bog where one of them became hopelessly mired. Upon extrication, the two watchers lost themselves in 12 square miles of forest. They finally arrived home in such a freezing rain that it was impossible for the junior observer to drive to his own home for a pre-Christmas celebration.

**[To be continued in the November-December issue]**

\* Formerly editor of *Bird-Lore*, now *Audubon Magazine*.



conservation departments but as far as we know, none was taken.

Weather was our only ally in combating the disease at Clear Lake last fall. Nightly freezing of its shallow water soon reduced the virulence. Large flights of ducks came into Clear Lake. Hunters' guns were the only hazard. Prairie winds blew downy white feather banners from their weedy standards. Scavengers disposed of dead birds. The huge death toll at Clear Lake became only a memory.

This spring as the days grew long and warm we decided to take another look at our duck paradise. We drove along the familiar route, noting signs of drought which clutched the whole area. Winter-wheat fields already showed patches of the withering brown which was to be their lot. Up the abandoned road we went, sensed the heart-lifting response as ducks—mostly pintails and mallards this time—rose from the slough. And again we felt sick helplessness as we saw those remaining along the shore. Listless birds, their heads hanging limber on the surface, marked the water's edge. Others we found hunched among the weeds on land, too weak to resist or to hold their heads erect when we picked them up. Three hawks, dead from preying on diseased ducks, helped repeat the pattern of death we had seen the year before. Hot dry days, warm water stagnant in alkaline soil were combining again to form another trap of death.

We took some photographs on this trip, pictures to illustrate the desolation we had found. At home we turned again to "The Ducks, Geese and Swans of North America." "In summarizing remedial measures which might be applied, Kalmbach and Gunderson (1934) suggest that lasting and effective means of prevention of the

disease lie in modifying or eliminating the conditions that favor the development of the organism. By flooding mud flats and shallow stagnant water areas with deep or flowing water, temperatures are lowered and through a process of dilution, the poison may be reduced to harmlessness. The expedient of cutting off all water from the infected areas has also been used effectively where the ground may be completely dried and thus become unattractive to birds . . ."

Wayne and I looked at each other questioningly. Here were the answers which could make Clear Lake safe for ducks. How could we help to achieve them? I had a sudden irrelevant vision of the two of us setting to work on the shoreline with a pair of shovels, for we seemed alone in our concern. It was true that no one paid any attention to Clear Lake except in hunting season. Then the local sportsmen hurried out to get their "too stingy" limit of birds during the "too short" time allotted. We had aroused a sympathetic "tsk, tsk!" here and there with our talk of botulism, but could summon up none of the concentrated interest needed for action. With local sportsmen disinterested there was little hope of gaining state or federal reclamation for the spot.

I have told you the story of Clear Lake because it is not an isolated mass murderer of ducks. Throughout the Midwest and West there are countless other unpublicized death traps where botulism thrives and birds die. Whether we hunt with binoculars, cameras or guns, we must not remain ignorant of this threat to our duck population, or apathetic about it. Let's publicize botulism wherever we find it and actively urge a remedy. Only by doing so can we keep our Clear Lakes literally "alive with ducks."



# MYTH - INFORMATION

By Lewis Wayne Walker

(Many wildlife myths and legends, built up by our early settlers around certain kinds of American birds and other animals, persist from generation to generation. In the fourth of a series, a writer-naturalist tells the true story underlying some pet beliefs.—The Editors)

Number 4 in a series

## DRAGONFLY—DEVIL'S DARNING NEEDLE

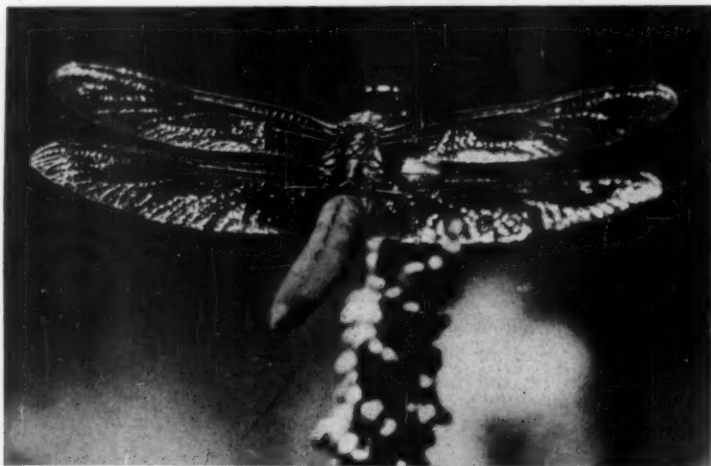
THE popular names by which the common dragonflies are known are enough to scare most children out of their wits and the stories believed about these harmless insects are purely the product of a nightmarish imagination. As a "devil's darning needle" the dragonfly supposedly uses its long abdomen just as a seamstress uses a needle, but in this case it is to sew up the lips of liars.

As a "horse killer," another name commonly heard, it, so the story goes, torments and stings horses until they lie down and die. Just why or how this tale originated is entirely beyond the deductive powers

of the human mind. The dragonfly has no stinger and lives entirely, when in the adult stage, on small insects which it pursues and captures in flight. During the last war attempts were made with fair success to introduce dragonflies into malarial regions. This was done in the hope that they would reduce the numbers of the malaria-carrying anopheles mosquitoes.

As "snake doctors," dragonflies are reputed, in some vague way, to associate with reptiles and aid them in their livelihood. How this is possible has never been explained, for a reptile's wants are few, being mainly food, peace, and seclusion.

*Photograph of dragonfly by the author.*



# NEWS

# OF WILDLIFE AND CONSERVATION

By John H. Baker

President of the National Audubon Society



## Waterfowl Rules Weighed

**W**ATERFOWL hunting regulations for the 1951-52 season, as recently announced, remain substantially the same as in the preceding season, with the important exception that the permitted period of shooting in each of the four flyways has been extended, varying from a total of 45 days in the Mississippi flyway, where the number of hunters and their estimated kill is the greatest, to 60 days in the Pacific flyway.

The basic principle on which the regulations are based is liberalization of hunting opportunity as conditions improve and restriction thereof as matters get worse. This does not dispose of the serious question each year as to the degrees of liberalization or restriction justified by the facts.

Generally speaking, according to the official figures, the waterfowl breeding population figures in 1951 were nothing to shout about. Weather and water conditions were, however, unusually favorable, so that production of young was in a ratio to breeding adults far above normal. Largely on the basis of production figures, the federal government decided to allow more days of hunting opportunity in each of the four flyways this season.

As we see it, the government is now each year gambling that the following year's crop of young will be a good one. When it proves to be a poor one, which is as bound to happen as the sun is to rise, the situation will be unfortunate and the cut-back in hunting opportunity will have to be substantial. We are inclined to feel that it would be to the best interests of all concerned if regulations were designed to level out the

peaks and valleys and furnish steadier opportunity, with less wide fluctuations.

In other words, we are inclined to recommend a more cautious and conservative approach. It looks to us as though current regulation policy, without having set up any reserves for contingencies, permits drawing on our capital resources. In evaluating the various factors, it is important to understand that many more young of the year than adults are killed each hunting season; that, generally speaking, the kill will be considerably larger in a year of successful production of young, even though the hunting opportunity be not increased.

The official figures of the number of waterfowl hunters is determined by reducing duck stamp sales by 13½ per cent, which is the official estimate of the number of hunters who purchase stamps and then do not use them, plus the stamps which are purchased for philatelic purposes. The official 1950 figures on hunters by flyways are as follows:

Pacific	332,151
Central	415,980
Mississippi	682,593
Atlantic	207,316
Total	1,638,040

Waterfowl kill data are collected by the majority of states in cooperation with the Fish and Wildlife Service. An average seasonal bag is first determined by examining hunters' bags in the field for average daily kill, and then multiplying this figure by the average number of times hunted during the season. The average seasonal kill per hunter is then multiplied by the number of hunters to obtain an estimated total kill. These estimates for the 1950 hunting season have been officially released, and are as given in the following table:

	Ducks	Geese	Coots	Total
Pacific Flyway	4,060,316	201,749	62,156	4,324,221
Central Flyway	4,935,314	249,077	7,408	5,191,799
Mississippi Flyway	5,313,114	128,489	802,451	6,244,054
Atlantic Flyway	2,192,398	127,118	171,988	2,491,504
	16,501,142	706,433	1,044,003	18,251,578

## Warden Fights off Attackers

THAT our wardens are today in danger, and guard bird rookeries at risk of personal injury, may surprise many of our members, but it is true, as evidenced by a recent event at the Duck Rock Sanctuary on the southwest Florida coast, below the town of Everglades. There Henry P. Bennett, who was assistant leader of our Audubon Wildlife Tours into the Everglades National Park area last winter and spring, has been on the job as warden since April. This week a long night-letter telegram came to Audubon House reading, in part, as follows: "On Saturday, August 11, 6:15 P.M., caught three men from Chokoloskee after they fired on birds at Duck Rock, killing three and wounding one white ibis. Birds were not in their possession but I retrieved them from under mangroves. They did not have time to pick up their kill. This evidence taken from my boat without my permission when party came aboard, making several attempts to start fight, striking me three times, with no injury because I was able to protect myself. Two men were intoxicated, the other a young boy." In a following letter, Bennett reports one of the men saying: "If you take this case into court I'll tell everyone you have been drinking on the job." "That did not faze me," Bennett says in his letter, "because I did not care what happened to me—I had a job to do and I told him so. He thought that over and came back with the statement that I was flirting with his wife and was

going to turn him in for spite. He kept talking about my flirting with his wife so much that he began to believe it and swung at me but missed, for it was a haymaker that could be seen coming from a mile off.

"There were several attempts to strike me in the face with his fist. Three glancing blows did get to me, catching me behind the ear, on the nose and just above the eyes. The other man all this time was trying to keep him away from me but he was in no condition to hold him back completely."

To keep men like Bennett on the job as Audubon wardens is one of the principal reasons that members and friends contribute to the Sanctuary Fund. Our wardens are not rated according to number of arrests they make, or convictions obtained in court on cases they originate. They are judged largely on the basis of improvement in local good-will and respect for the sanctuary status of the areas, for the protection of which the Society has responsibility. Nevertheless from time to time it is necessary to make arrests and prosecute cases. We are confident that the good people of Everglades, Florida, and of the settlement on nearby Chokoloskee Island, warmly support the wildlife protective activities of the Society in their area; that they will clearly understand just what happened, how and why, and will respect Henry Bennett for doing his job, and standing up to these killers of birds in a guarded sanctuary, at a time when to do so involved great personal risk. Those men were tough and ugly customers to deal with.



## Flying Colors

S. Stroock and Company, New York fabric house, is tying in with the observance of Audubon Centennial Year by selecting a set of "Flying Colors" for its fall promotion of fabrics.

In the photo Miss Josephine Keim, sales promotion direction for Stroock, shows Miss Marianne Granville, Stroock designer, the similarity between the new Stroock colors and those used by Audubon in the "Birds of America" which inspired them. Stroock has prepared newspaper advertisements using Audubon Centennial Stamps as a background. Department store window displays and other publicity have promoted the observance of Audubon Centennial Year.

# Audubon Guide To Bird Attracting

A department in which our readers can share with each other what they have learned about how to attract birds.

## Do Birds Think and Exercise Judgment?

In the absence of bread crumbs, the house sparrow has developed a taste for other foods. Photograph by Michael Pakeltis.



In this issue, we have again given over our bird-attracting department to a guest columnist. Although we may not entirely agree with Mr. Van Cleef's brief for the intelligence, or thinking ability of birds, his approach to this controversial subject is so fresh and lively that we think you will enjoy his article as much as we have. We hope you will find his experiments and analyses of bird psychology interesting, and that you will enjoy the sly humor of this self-confessed "amateur" bird attractor.

—The Editors

**By Eugene Van Cleef**

PROFESSIONAL ornithologists and psychologists should not read what follows. The remarks are made by an amateur observer of bird-life and are intended only for amateurs. In fact, only an amateur would offer the comments I am about to make. Many experts have said a decisive "No" in answer to the question posed here. So for those of us who still are willing to admit the animal world to a level a bit above that ordinarily accredited to it, I file the following observations.

I have known persons, and read about others, who trained wild birds to perch on their shoulders or to eat from their hands. Usually these people have lived in rural or suburban areas where the density of human population is low, traffic scant, and there are few factors to frighten animals. Their experiences had never been mine, so I decided to do something about it. My home is neither in a suburb nor exactly in a densely populated area. Lots average 50 feet wide, range from 150 feet to 200 feet deep, and for the most part are occupied by residences. The nearest avenues of heavy traffic are a half mile away but there is considerable going and coming, on my own street. My yard is not unusual—some grass, a few flowers, shrubs and a tree or two. After attempting to entice birds with the usual feeding stations and birdhouses of a sort, I decided one day to offer them something different. Robins had arrived before winter was ended, and I figured they might like a little fruit. Knowing their enthusiasm for grapes when my neighbor's grapevine bears a crop, it seemed to me raisins, an inexpensive food, might appeal. I might have asked them if they had "had their iron today" but then, amateur though I am, I really didn't expect the birds to talk, at least not to me!

I threw a raisin out of the breakfast room window and promptly a robin, shivering in the cold, examined it and decided it was accept-



"Catbirds also learned to take raisins from my hands." Photograph by Allan D. Cruickshank.

able. I threw out another and after backing away a moment the bird came forward and picked it up without further hesitation. And thus the beginning of a "friendship" was established. The robin not only came to the window daily but developed so much enthusiasm for raisins it flew to the window every time it saw someone inside. Ultimately, it developed the habit of perching on a low fence close to the window even when there was no one visible inside the house in the hope apparently someone would show up sooner or later with more raisins. It occurred to me, I now had the robin



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## Students of Ornithology!



ARTHUR A. ALLEN

## Says

May I take this opportunity to tell you how we value *Audubon Field Notes* here in the Laboratory of Ornithology at Cornell University.

In our Fuertes Library we keep it available on the reading table at all times, together with the *Audubon Magazine*, *The Auk*, *The Condor*, *Wilson Bulletin* and other bird and conservation periodicals; and I notice that *Audubon Field Notes* is referred to by the students as frequently as any.

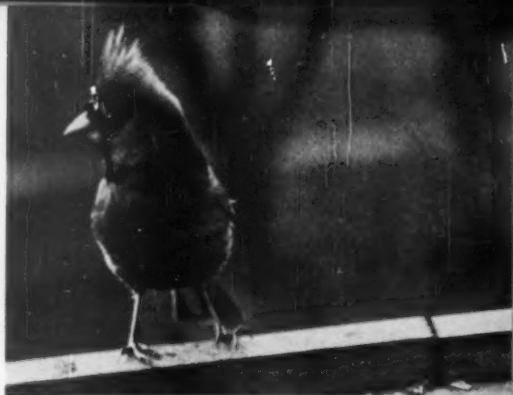
I certainly hope you continue to publish it so that all of the information that it contains will be available to our students specializing in ornithology. I am convinced of its value.

Sincerely yours,  
ARTHUR A. ALLEN  
Professor of Ornithology

## Audubon Field Notes

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"Cardinals have been much less cooperative than robins and catbirds." Photograph by C. P. Fox.

in the right frame of mind to eat from my hand. I was wrong. So I laid the raisins on the window sill, remaining seated close to it. The robin helped itself immediately, but kept a wary eye on me. Repetition of this performance a number of times seemed to demonstrate to the robin that no danger was involved. Weeks passed during which our acquaintance evolved into a "warm friendship." Ultimately Lady Robin became engaged in hatching her eggs and, with this activity, more anxious than ever to eat raisins. One day I offered the raisins from one of my hands, resting on the window sill. After a little contest between us to see who could wait the longer, Lady Robin gave in, alighted on my fingers and helped herself. Thereafter the performance of eating from my hands became standard practice and continued until the end of the nesting season. This experience has been repeated for the past several years. Whether the robin has been the same one each year I do not know.

The male robin of the pair was skittish. He did not venture to take the raisins from my hands until long after his "wife" had formed the habit even though he watched her help herself a number of times each day. When he did follow suit, he never seemed to acquire complete assurance and discontinued the habit long before the female did.

Robins were not the only ones that revealed an interest in taking raisins from my hands. Catbirds did likewise. In fact, one of them showed even greater bravery, helping itself from my opened palm even when I stood in the yard or sat in a garden chair. Catbirds have followed me on call if there seemed to be the prospect of raisins. But again, as with the robins, the female has been more willing than the male to take the risk.

Catbirds became so tame (*I was going to say so understanding but that would be attributing too much of human intelligence to them*) that

when they begged food from me as I sat on my garden bench they seemed to understand that if they waited near the bench until I returned from the breakfast room, 50 feet away, they would get the raisins that they sought. Occasionally they would follow me to the breakfast room window, but not often, when the stage was set as just described.

Cardinals have been much less cooperative than robins and catbirds, although they have shown considerable enthusiasm for raisins. I have not succeeded in gaining their confidence to the extent of their eating from my hand although they willingly come to the window sill even while I sit close by and at times when there is no food out, alight on the sill and look through the window, apparently to attract attention in their quest of food.

The "lowly" house sparrow joins the throng and it, too, has developed a taste for raisins. Interestingly enough, it does not swallow the whole raisin as do the robins and catbirds, nor after chewing it into pieces as is the practice of the cardinal, does it swallow the skin. It separates the meaty part from the skin and discards the latter. When the sparrows first sought to share in the food dispensed from the window they showed little or no interest in raisins; in fact they shunned them. But after observing the other birds seemingly enjoying the tidbit and in the absence of bread crumbs or other favored products, they either learned how to eat raisins or knew how and decided they had better eat them rather than do with nothing at all. They

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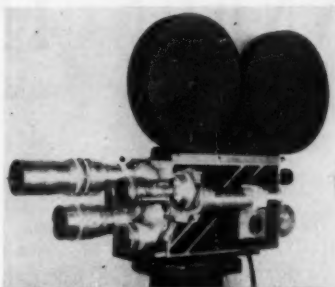
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developed such enthusiasm for the raisins that after awhile certain of the sparrows, tamer than others, when given a choice of bread or raisins, chose raisins.

All of this bird behavior might be interpreted as "motivation." That is, the birds sought food, recognized it as desirable when they saw it, or that it was the kind of food they were accustomed to eating, and then did whatever was necessary, within their ability, to retrieve the food. This "motivation" will be interpreted by many as not involving thought, but rather an automatic or instinctive reaction, or perhaps of learning.

Experiments tried with all four classes of birds revealed a definite choice on their part, of raisins over bread or cake or other food offered them which normally are consumed by them. Arranging raisins and pieces of other foods in a manner requiring that they pass by one in order to get the other, they invariably chose the raisins. This was not a trial and error performance. To be sure the colors of the two kinds of foods differed and this difference may have served as guides to the selection to be made. Nevertheless discrimination by the bird was necessary.

I note again that the birds generally perched on a low picket fence below the window and whenever I offered them crumbs, which normally they seemed glad to accept, they now would only look down at them and then look up at the window in anticipation of raisins. Often they would fly away, if after waiting for some time, I gave them no raisins. On the other hand, if there seemed no prospect of raisins, and they were hungry enough, they would eat the crumbs. This has been truer of the house sparrow than of the other birds.

Is the behavior of these birds to be attributed to instinct? To experience leading to automatic selection? To the struggle for survival, the fear of hunger, to learning, or to some other type of response rather than to thought or judgment? The experts tell us that reasoning is a special method of solving problems. These birds do many things even in association with feeding that appear foolish or reveal not the slightest ability to solve problems. Perhaps we would not be considered out-of-order to ask whether human beings ever behave similarly? Judging by recent world events as well as man's actions in many domestic matters, there is some basis for doubt concerning our own problem-solving abilities. It would seem that those bird friends of mine, while not able to engage in the complex thinking and reasoning we do, differ from us only in the scale of their action.

I must record another observation to bolster the argument that birds, or some of them at least, seem to do a bit of thinking. When I served robins and catbirds raisins during the period that they fed their youngsters, they always attempted to carry away at one time as many raisins as there were birds to feed. Lady Robin when rearing a family of three, was reluctant to go away with less than three raisins. To take only one or two and return for more did not seem to appeal. Whenever I deliberately gave her only two raisins, she waited, sometimes flirting her tail and showing a bit of dissatisfaction, until I gave her more. If I held out against her, she would give up, fly away to the nest with what she had and return for additional fare. Did this involve any thought, is this reaction emotional, or is it something else to which we may assign some technical terminology so as not to credit the animal with a human trait?

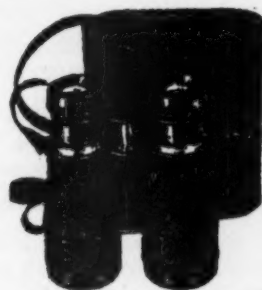
Professor Frank A. Beach of Yale University says, with reference to all lower animal life, "Thus far every objective search for scientifically acceptable proof (of reasoning) has been completely unsuccessful." Perhaps, after all it makes no difference whether or not birds think or reason. We can enjoy them just the same. Yet, my own pleasures derived from association with wild birds has come in part from observing the "logic" or "illogic" of what they do. Just as humans are interesting largely because of their unpredictable behavior and their deviations from the "normal," so birds to me are also fascinating because of their reactions and their deviations. We may talk about robins or sparrows or any other birds as a class, and as a class perhaps one may say with considerable assurance they express little or no intelligence. Yet, to me, many of them are distinct individuals, present a variety of behavior patterns, seem to do some thinking, and at times exercise judgment.

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By Monica de la Salle

AUDUBON WATER BIRD GUIDE; WATER, GAME, AND LARGE LAND BIRDS; EASTERN AND CENTRAL NORTH AMERICA FROM SOUTHERN TEXAS TO CENTRAL GREENLAND

By Richard H. Pough, Doubleday, New York, 1951. 4¾ x 7½ in., 352 pp. Color illustrations by Don Eckelberry, line drawings by Earl L. Poole. Indexed. \$3.50.

This companion book to "Audubon Bird Guide" has the same fine standards of its predecessor. The information given is somewhat more detailed than in the first volume and elaborates on the habits and behavior of the various species covered.

A GUIDE TO BIRD SONGS; DESCRIPTIONS AND DIAGRAMS OF THE SONGS AND SINGING HABITS OF LAND BIRDS AND SELECTED SPECIES OF SHORE BIRDS.

By Aretas A. Saunders, Doubleday, Garden City, New York, 1951. 4½ x 7½ in. 307 pp. Indexed. \$3.00.

Long out of print, this new edition--revised and enlarged--gives a clear and simple method of identifying birds through a practical diagrammatic system of representing bird songs. Descriptions of the birds, their habitat and distribution are also included.

### FLAMINGO CITY

By G. K. Yeates, Charles Scribner's Sons, New York, 1950. 6½ x 9½ in., 210 pp. Illus. with six photographs in color and 38 in black-and-white by the author. Indexed. \$3.50.

Although a quarter of this book is devoted to the observation of a colony of flamingos, it deals mainly with the bird and other animal life of the great natural history reservation of the Camargue, in southern France. Turn to Page 336

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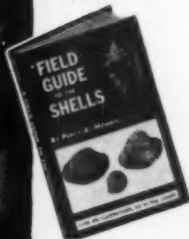
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### ONTARIO BIRDS

By L. L. Snyder, Clarke, Irwin & Company, Toronto, Ontario, Canada, 1951. 6¼ x 9½ in., 248 pp. Illus. with line drawings by T. M. Shortt. Indexed. \$4.50.

The author, Curator of Ornithology at the Royal Ontario Museum of Zoology, has attempted to answer some of the ornithological questions most commonly asked of his department. This book is more than a listing of birds occurring in Ontario and will be useful for reference. Excellent line drawings by T. M. Shortt illustrate a clear and informative text.

### BIRDS AND MEN: THE BIRD LIFE OF BRITISH TOWNS, VILLAGES, GARDENS AND FARMLAND

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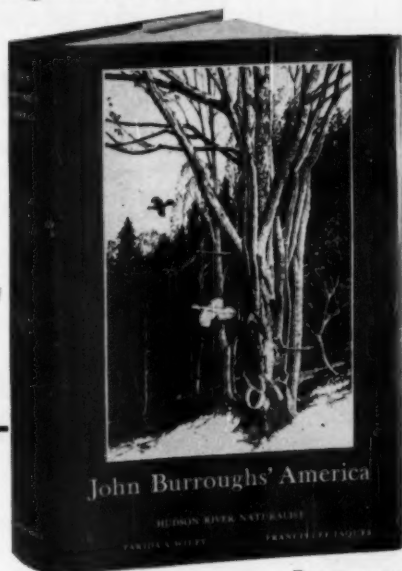
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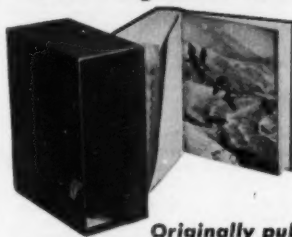
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